

Case No. : <u>GTS20231208004-1-50</u>	
Ambient Condition: <u>22</u> °C, <u>49</u> %RH	
According Standard: ■Part15C	
Test Date: <u>2024.2.27</u>	Test Engineer: <u>Evan ouyang</u>

Appendix B.1: DTS Bandwidth

Test Result

BT LE

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	0.700	2401.656	2402.356	0.5	PASS
		2440	0.700	2439.648	2440.348	0.5	PASS
		2480	0.668	2479.668	2480.336	0.5	PASS

BT 2LE

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	1.244	2401.348	2402.592	0.5	PASS
		2440	1.172	2439.408	2440.580	0.5	PASS
		2480	1.156	2479.424	2480.580	0.5	PASS

BT LE(S2)

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	0.680	2401.656	2402.336	0.5	PASS
		2440	0.720	2439.620	2440.340	0.5	PASS
		2480	0.700	2479.632	2480.332	0.5	PASS

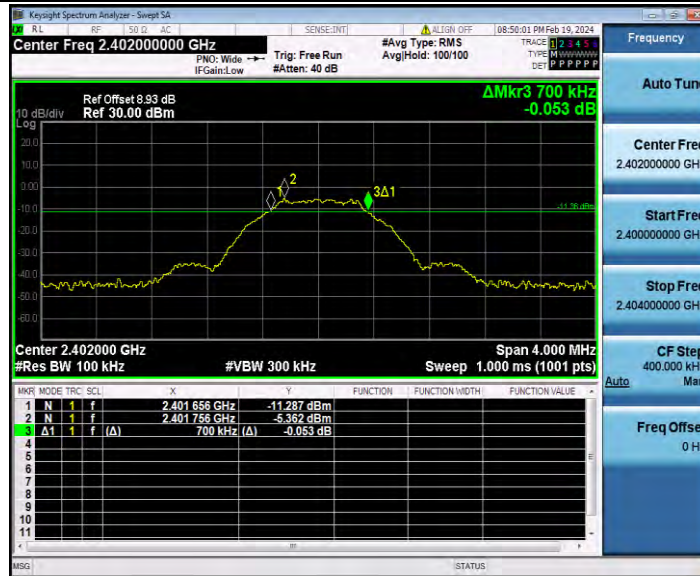
BT LE(S8)

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	0.680	2401.652	2402.332	0.5	PASS
		2440	0.680	2439.648	2440.328	0.5	PASS
		2480	0.672	2479.652	2480.324	0.5	PASS

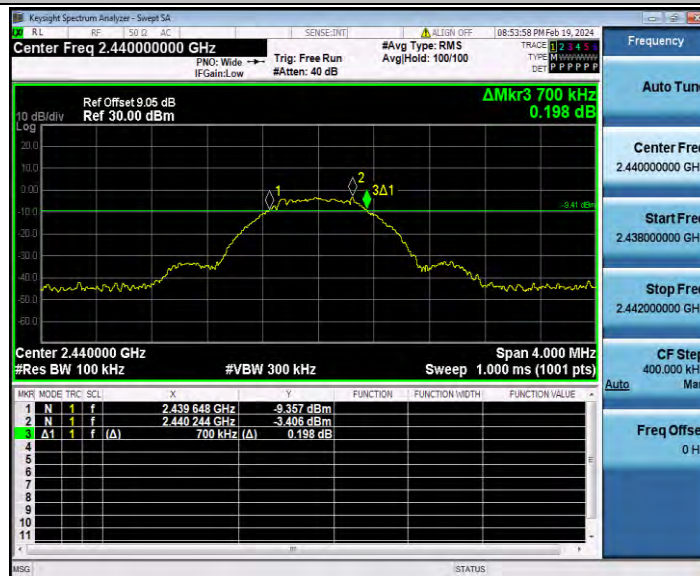
Test Graphs

BT LE

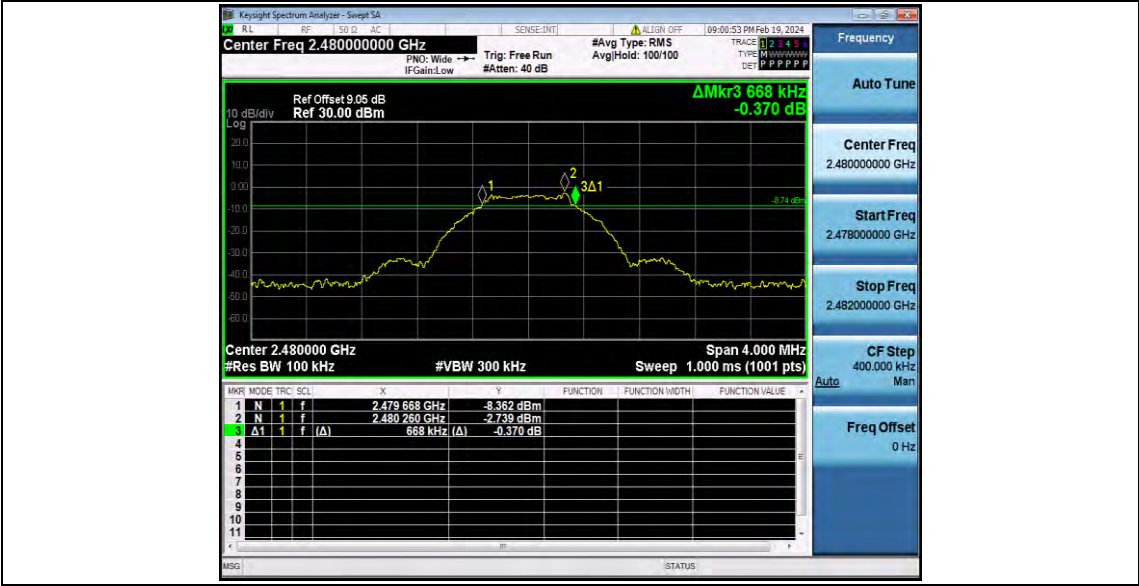
BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480



BT 2LE

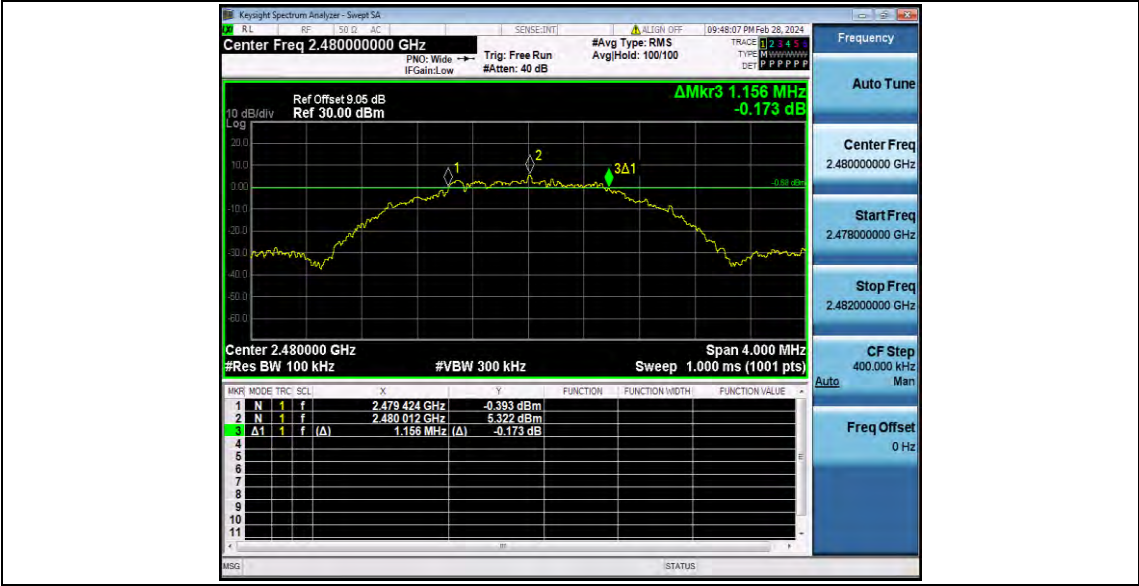
BLE_Ant1_2402



BLE_Ant1_2440

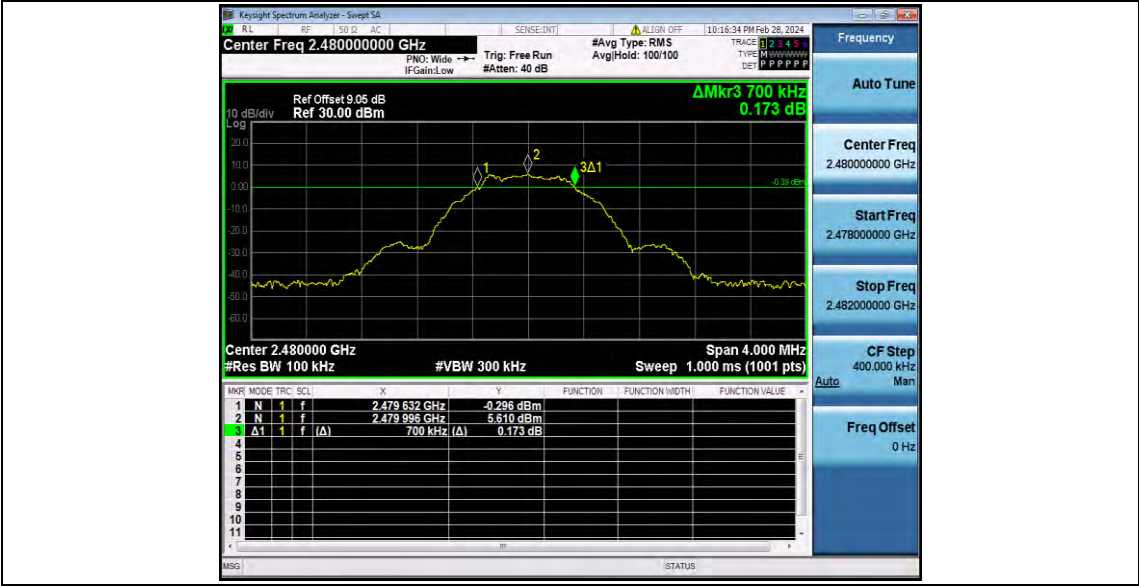


BLE_Ant1_2480



BT LE(S2)





BT LE(S8)

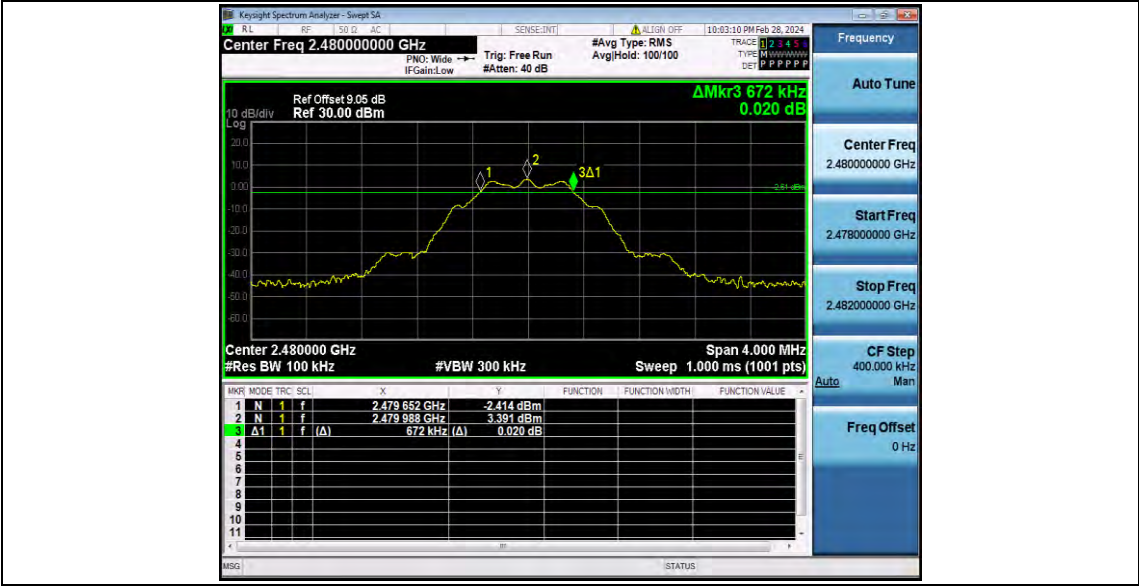
BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480



Appendix B.2: Occupied Channel Bandwidth

Test Result

BT LE

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	1.0410	2401.4819	2402.5229	---	---
		2440	1.0505	2439.4801	2440.5306	---	---
		2480	1.0370	2479.4850	2480.5220	---	---

BT 2LE

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	2.0509	2400.9846	2403.0355	---	---
		2440	2.0446	2438.9865	2441.0311	---	---
		2480	2.0343	2478.9868	2481.0211	---	---

BT LE(S2)

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	1.0320	2401.4732	2402.5052	---	---
		2440	1.0390	2439.4717	2440.5107	---	---
		2480	1.0311	2479.4733	2480.5044	---	---

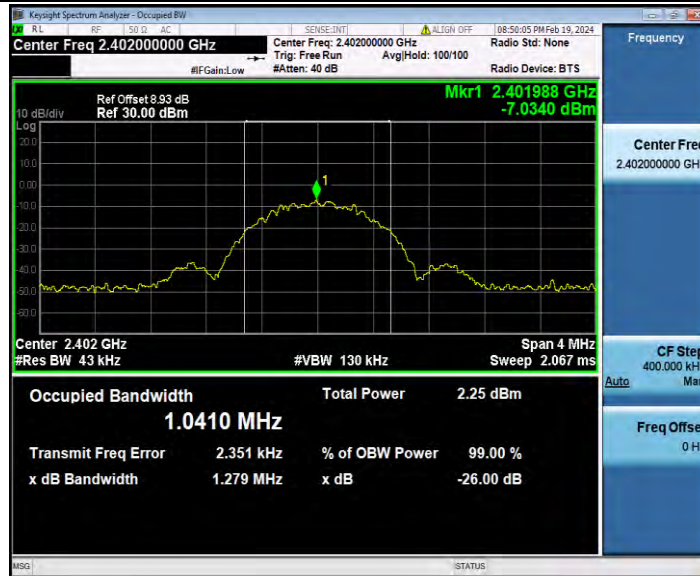
BT LE(S8)

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	1.0508	2401.4643	2402.5151	---	---
		2440	1.0524	2439.4623	2440.5147	---	---
		2480	1.0503	2479.4635	2480.5138	---	---

Test Graphs

BT LE

BLE_Ant1_2402



BLE_Ant1_2440

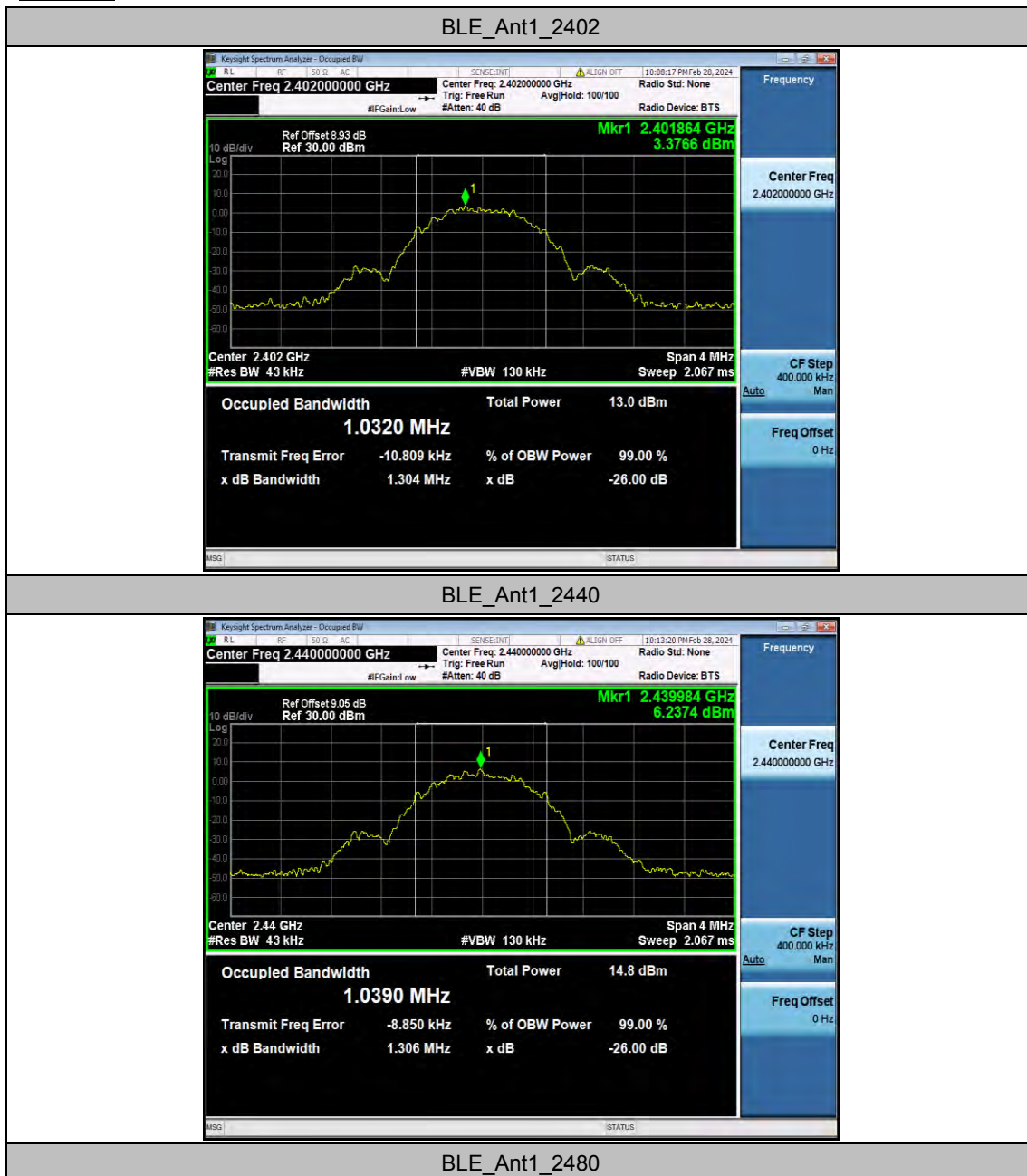


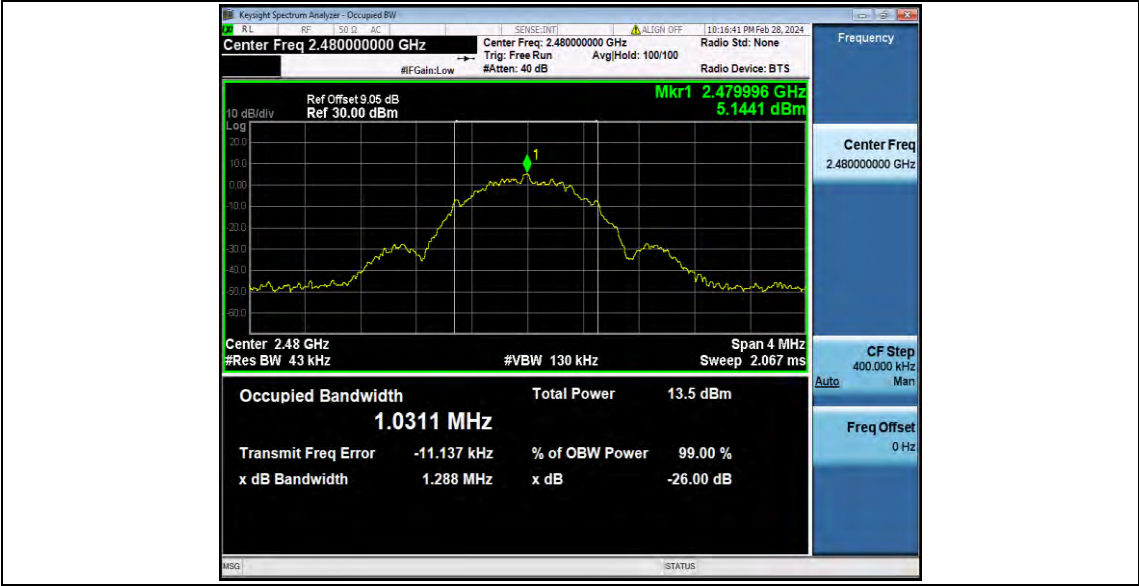
BLE_Ant1_2480

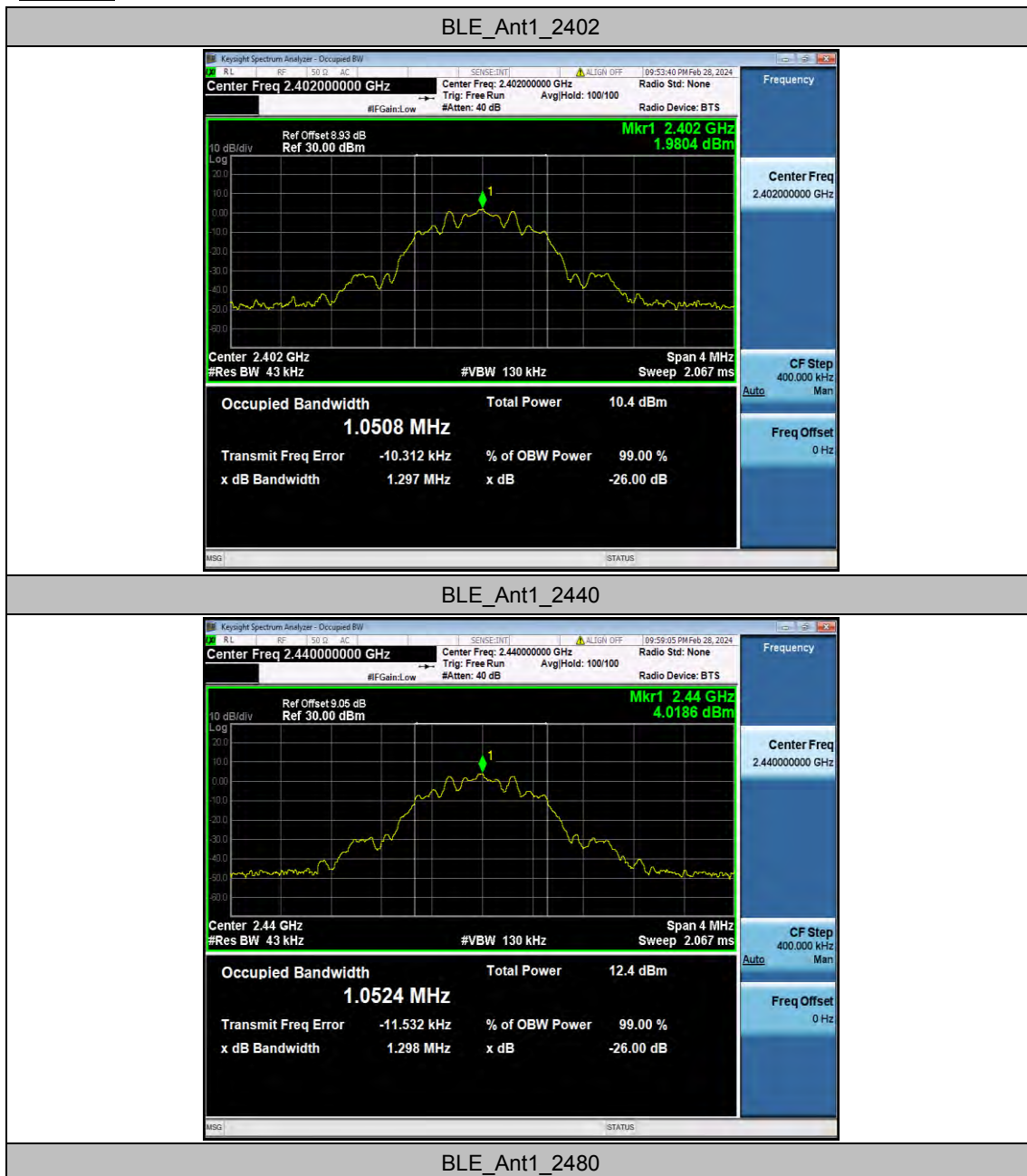


BT 2LE



BT LE(S2)



BT LE(S8)



Appendix B.3: Maximum conducted output power

Test Result

BT LE

TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE	Ant1	2402	-4.00	≤30	PASS
		2440	-2.08	≤30	PASS
		2480	-2.07	≤30	PASS

BT 2LE

TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE	Ant1	2402	6.41	≤30	PASS
		2440	8.02	≤30	PASS
		2480	6.65	≤30	PASS

BT LE(S2)

TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE	Ant1	2402	6.46	≤30	PASS
		2440	8.04	≤30	PASS
		2480	6.64	≤30	PASS

BT LE(S8)

TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE	Ant1	2402	6.49	≤30	PASS
		2440	8.05	≤30	PASS
		2480	6.68	≤30	PASS

Note:

1.The Duty Cycle Factor and RBW Factor is compensated in the data.

Appendix B.4: Maximum power spectral density

Test Result

BT LE

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE	Ant1	2402	-20.62	≤8.00	PASS
		2440	-8.23	≤8.00	PASS
		2480	-18.49	≤8.00	PASS

BT 2LE

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE	Ant1	2402	-12.98	≤8.00	PASS
		2440	-11.63	≤8.00	PASS
		2480	-12.52	≤8.00	PASS

BT LE(S2)

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE	Ant1	2402	-0.13	≤8.00	PASS
		2440	1.63	≤8.00	PASS
		2480	0.16	≤8.00	PASS

BT LE(S8)

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE	Ant1	2402	0.16	≤8.00	PASS
		2440	1.84	≤8.00	PASS
		2480	0.40	≤8.00	PASS

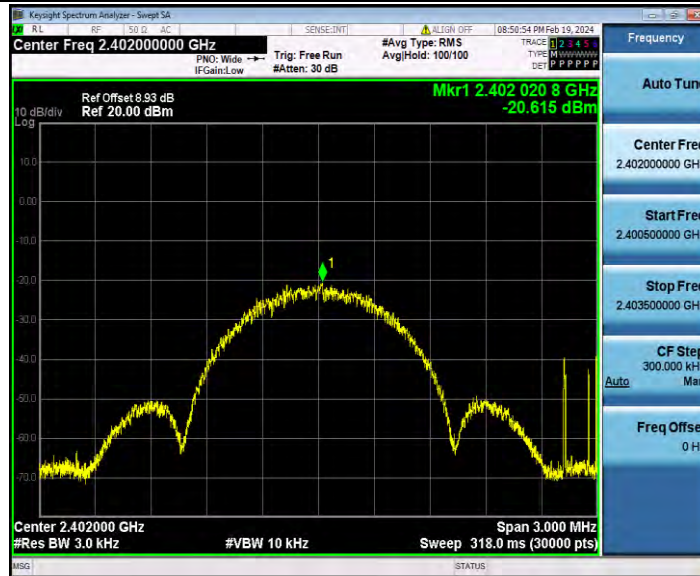
Note:

1. The Duty Cycle Factor and RBW Factor is compensated in the graph.

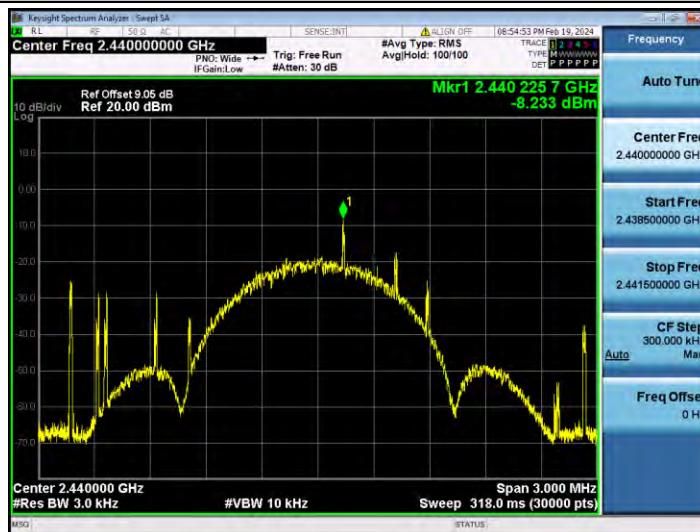
Test Graphs

BT LE

BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480



BT 2LE

BLE_Ant1_2402



BLE_Ant1_2440



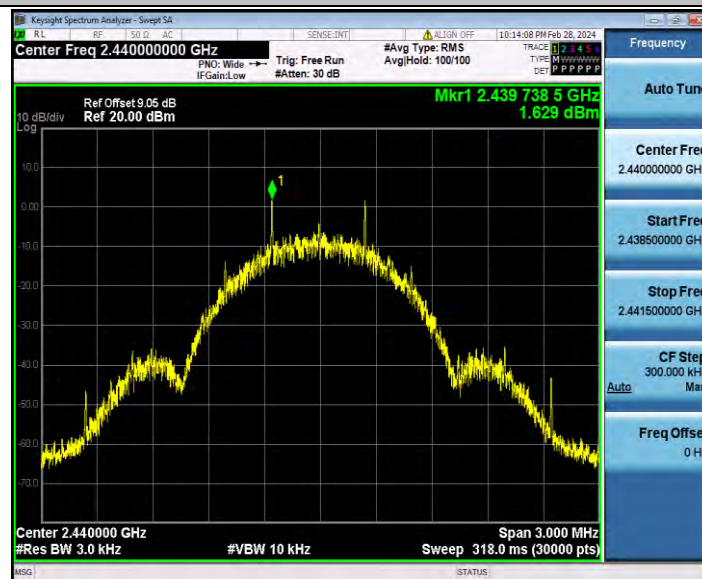
BLE_Ant1_2480

BT LE(S2)

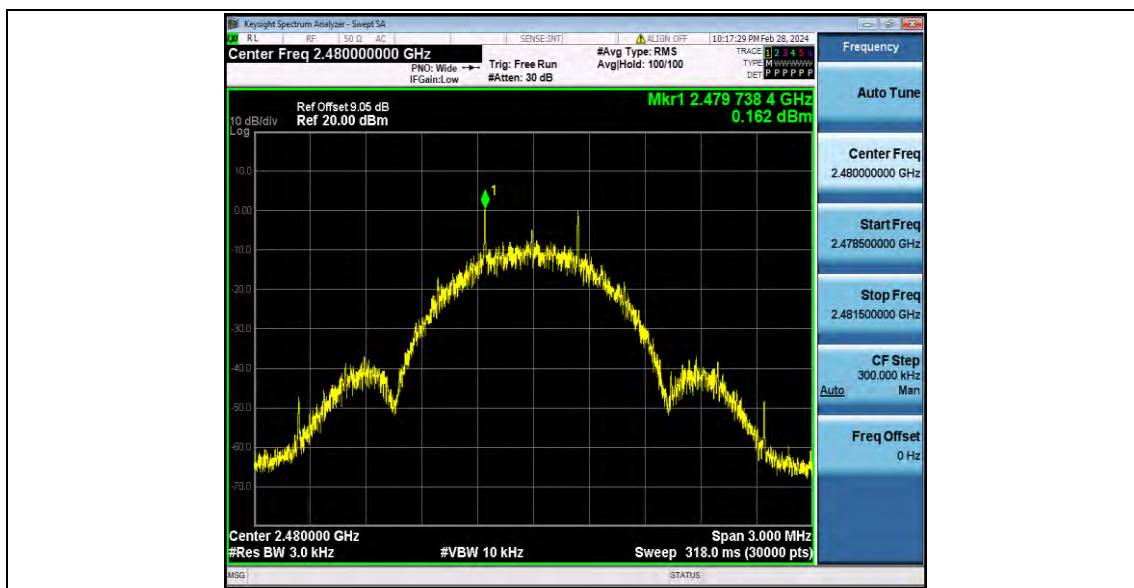
BLE_Ant1_2402



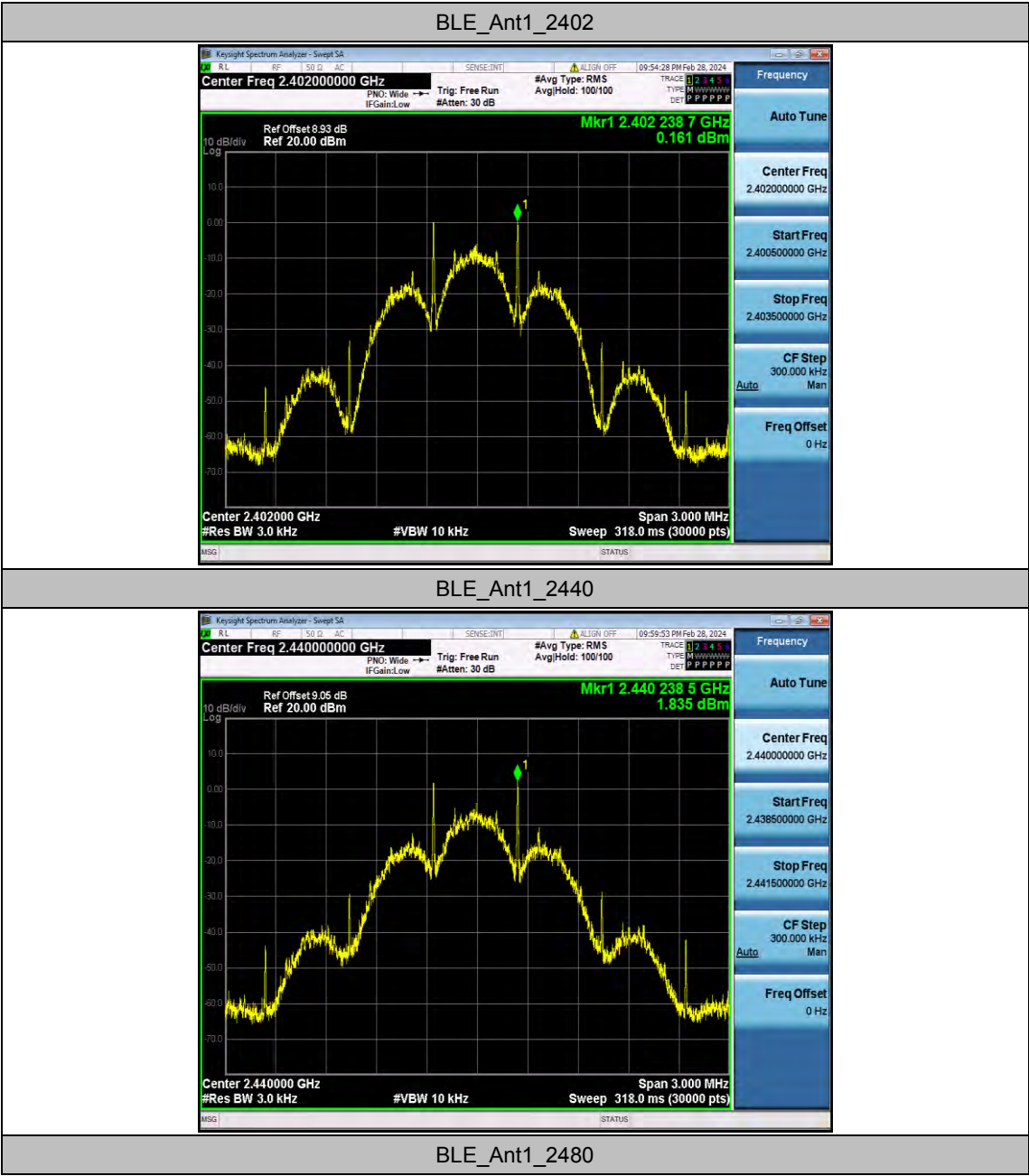
BLE_Ant1_2440



BLE_Ant1_2480



BT LE(S8)





Appendix B.5: Band edge measurements

Test Result

BT LE

TestMode	Antenna	ChName	Freq (MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE	Ant1	Low	2402	-4.61	-48.07	≤-24.61	PASS
		High	2480	-2.54	-49.57	≤-22.54	PASS

BT 2LE

TestMode	Antenna	ChName	Freq (MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE	Ant1	Low	2402	5.31	-29.97	≤-14.69	PASS
		High	2480	5.43	-49.22	≤-14.57	PASS

BT LE(S2)

TestMode	Antenna	ChName	Freq (MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE	Ant1	Low	2402	5.88	-49.4	≤-14.12	PASS
		High	2480	6.17	-49.8	≤-13.83	PASS

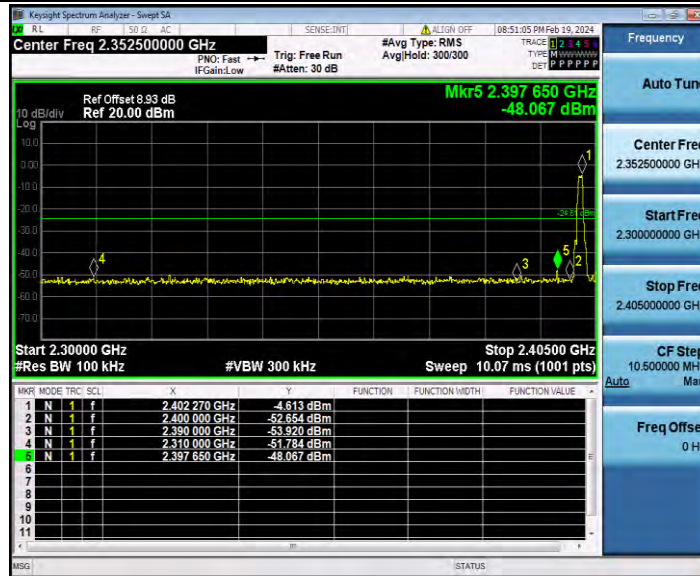
BT LE(S8)

TestMode	Antenna	ChName	Freq (MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE	Ant1	Low	2402	3.16	-49.69	≤-16.84	PASS
		High	2480	3.47	-49.43	≤-16.53	PASS

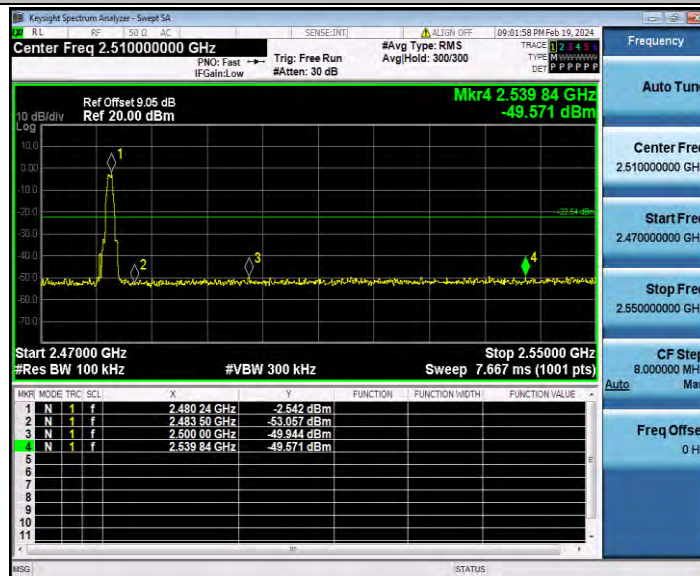
Test Graphs

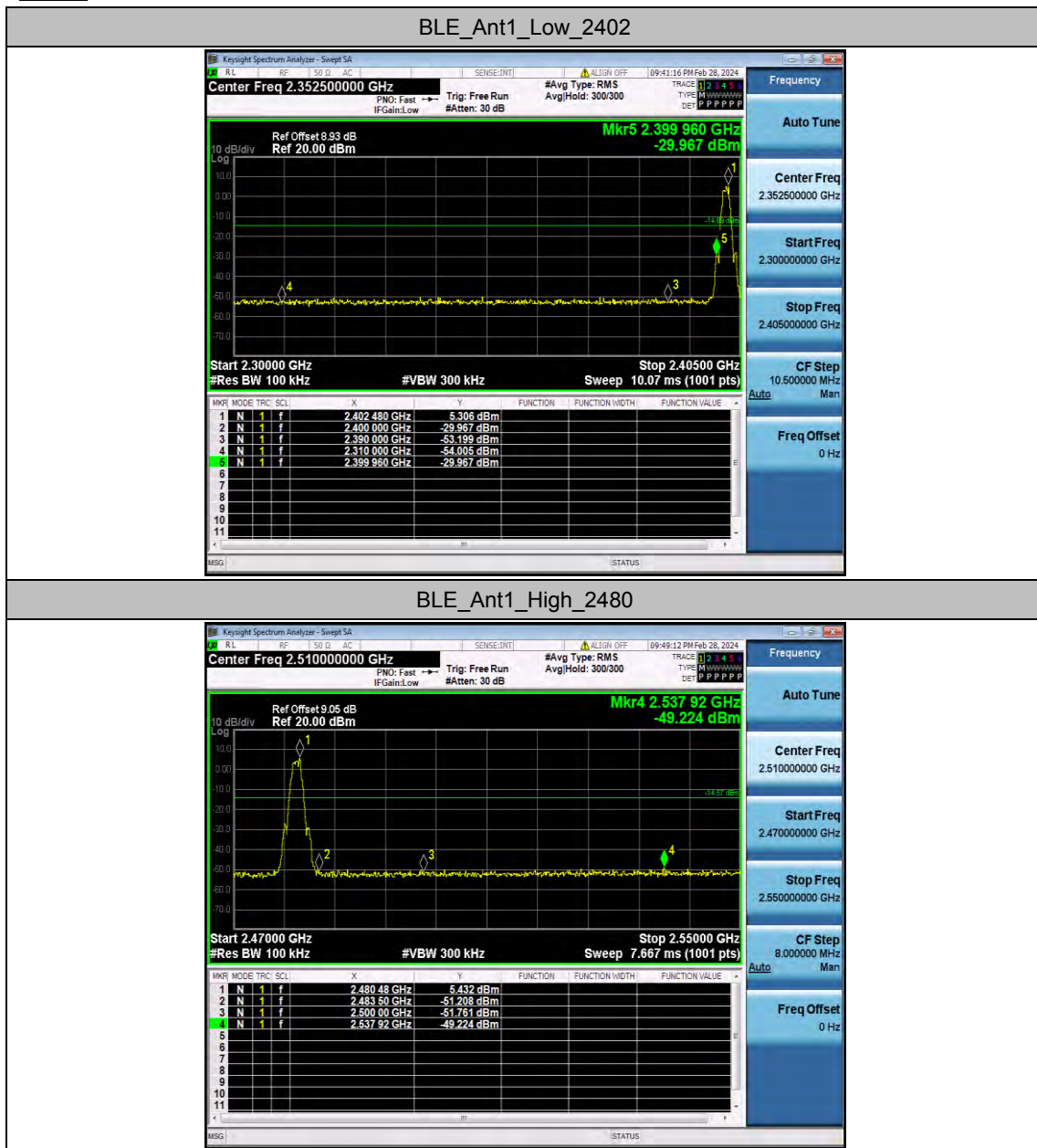
BT LE

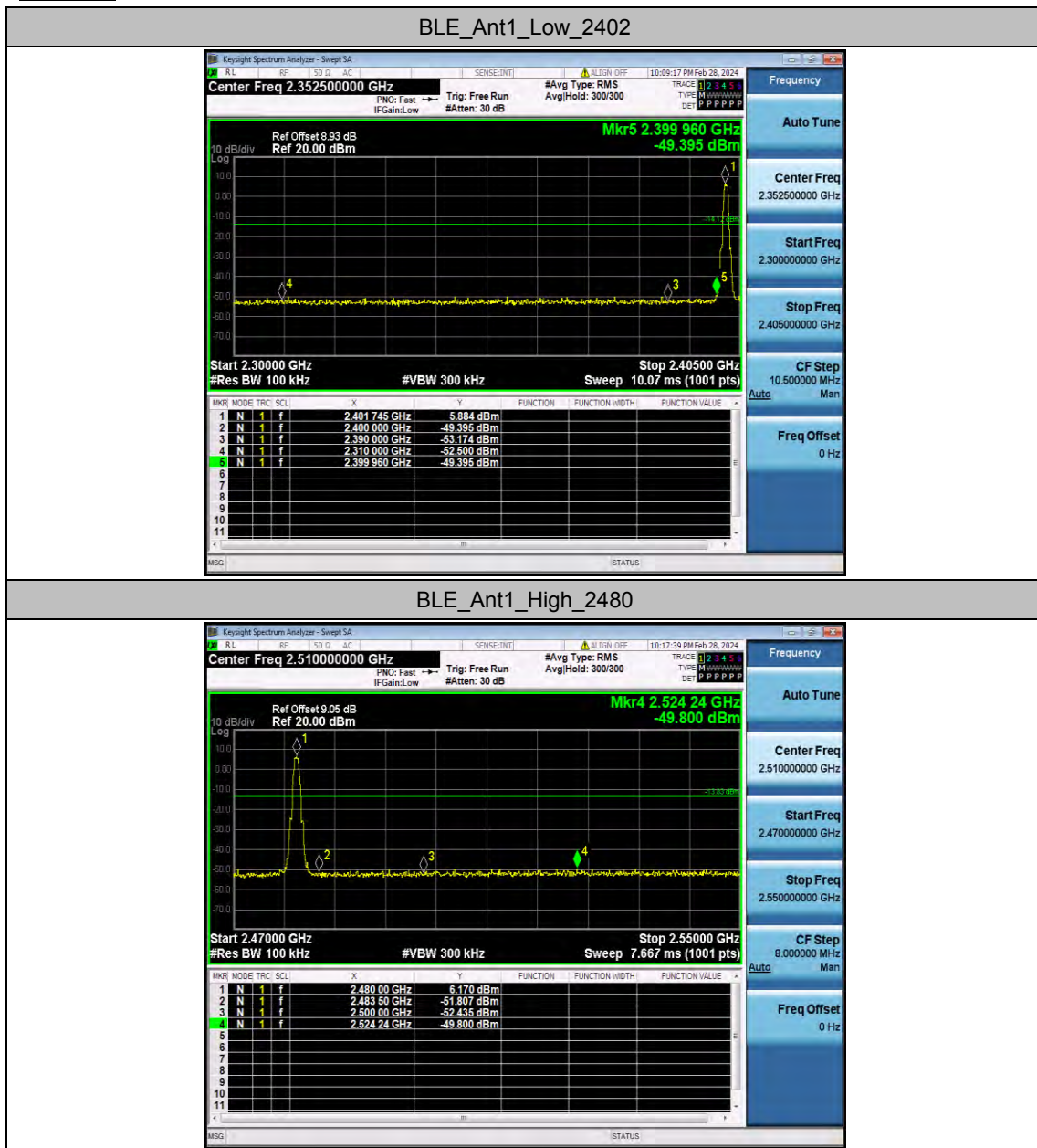
BLE_Ant1_Low_2402

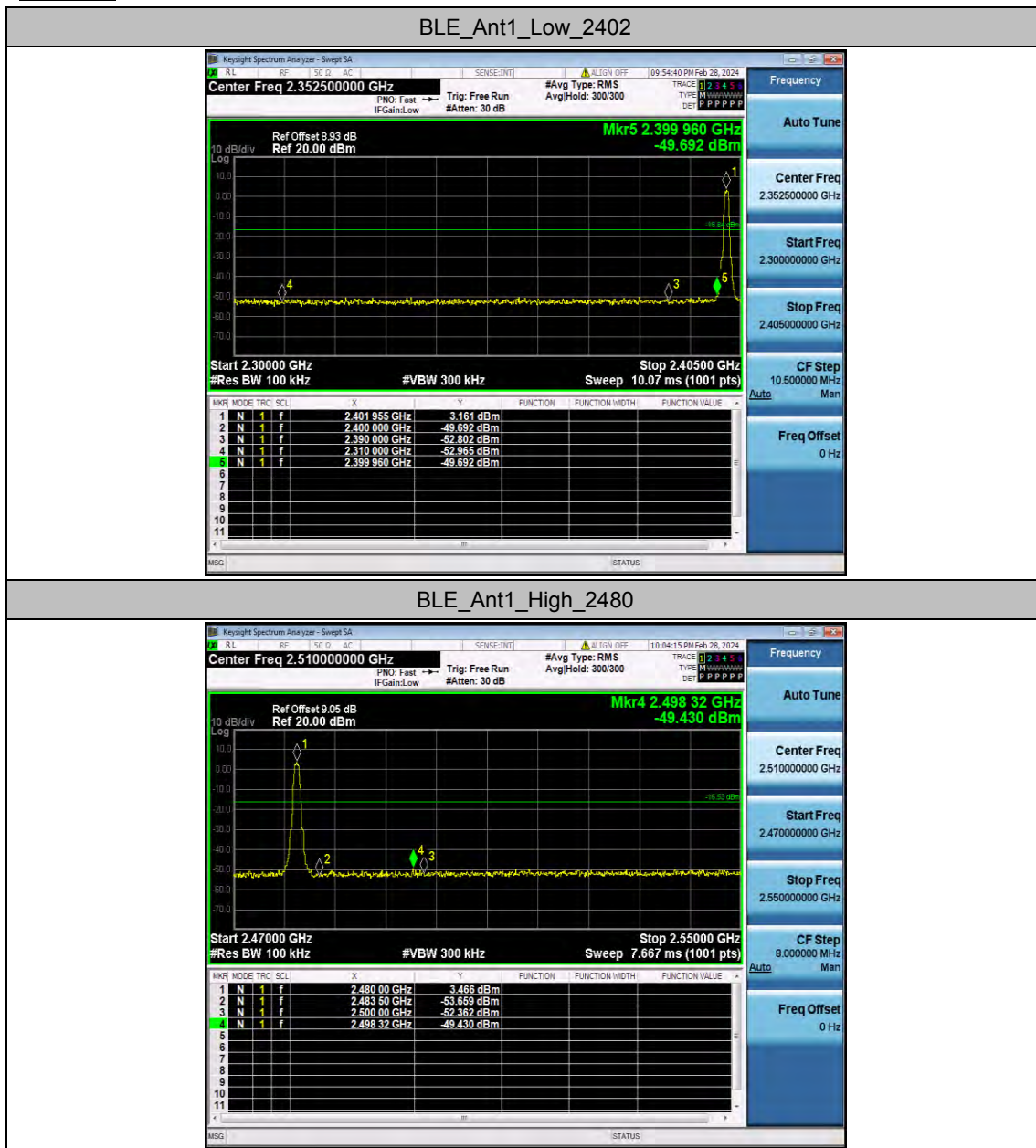


BLE_Ant1_High_2480



BT 2LE

BT LE(S2)

BT LE(S8)

Appendix B.6: Conducted Spurious Emission

Test Result

BT LE

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	2402	Reference	-5.60	-5.60	---	PASS
			30~1000	-5.60	-60.23	≤ -25.6	PASS
			1000~26500	-5.60	-47.92	≤ -25.6	PASS
		2440	Reference	-3.64	-3.64	---	PASS
			30~1000	-3.64	-60.4	≤ -23.64	PASS
			1000~26500	-3.64	-47.21	≤ -23.64	PASS
		2480	Reference	-3.29	-3.29	---	PASS
			30~1000	-3.29	-60.53	≤ -23.29	PASS
			1000~26500	-3.29	-47.99	≤ -23.29	PASS

BT 2LE

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	2402	Reference	5.19	5.19	---	PASS
			30~1000	5.19	-60.47	≤ -14.81	PASS
			1000~26500	5.19	-47.39	≤ -14.81	PASS
		2440	Reference	5.04	5.04	---	PASS
			30~1000	5.04	-60.4	≤ -14.96	PASS
			1000~26500	5.04	-47.91	≤ -14.96	PASS
		2480	Reference	3.03	3.03	---	PASS
			30~1000	3.03	-61.02	≤ -16.97	PASS
			1000~26500	3.03	-47.74	≤ -16.97	PASS

BT LE(S2)

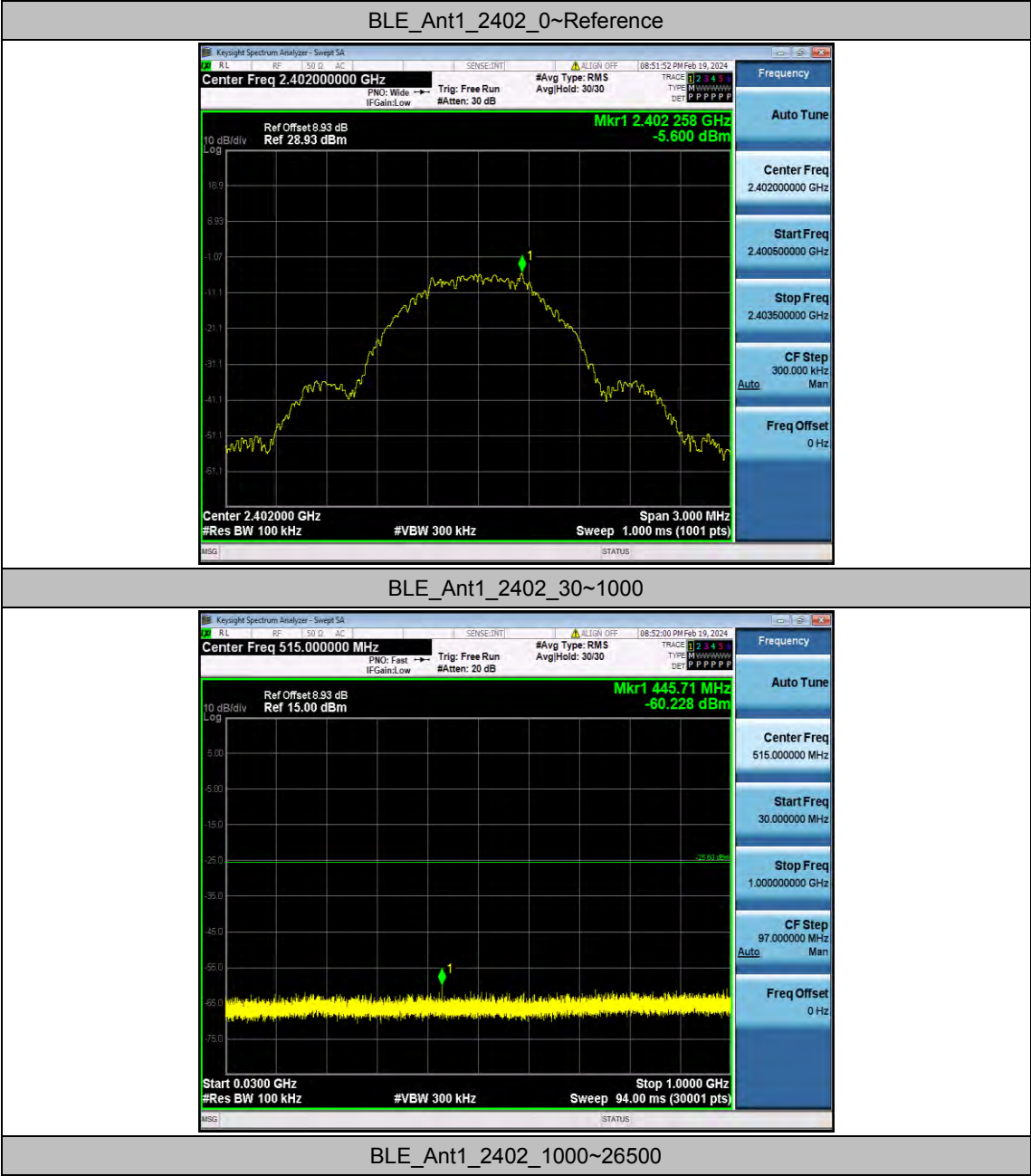
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	2402	Reference	4.73	4.73	---	PASS
			30~1000	4.73	-60.7	≤-15.27	PASS
			1000~26500	4.73	-46.85	≤-15.27	PASS
		2440	Reference	7.26	7.26	---	PASS
			30~1000	7.26	-60.56	≤-12.74	PASS
			1000~26500	7.26	-46.79	≤-12.74	PASS
		2480	Reference	4.78	4.78	---	PASS
			30~1000	4.78	-60.94	≤-15.22	PASS
			1000~26500	4.78	-48.07	≤-15.22	PASS

BT LE(S8)

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	2402	Reference	3.09	3.09	---	PASS
			30~1000	3.09	-60.84	≤-16.91	PASS
			1000~26500	3.09	-47.23	≤-16.91	PASS
		2440	Reference	4.88	4.88	---	PASS
			30~1000	4.88	-60.44	≤-15.12	PASS
			1000~26500	4.88	-47.65	≤-15.12	PASS
		2480	Reference	3.37	3.37	---	PASS
			30~1000	3.37	-60.84	≤-16.63	PASS
			1000~26500	3.37	-47.72	≤-16.63	PASS

Test Graphs

BT LE

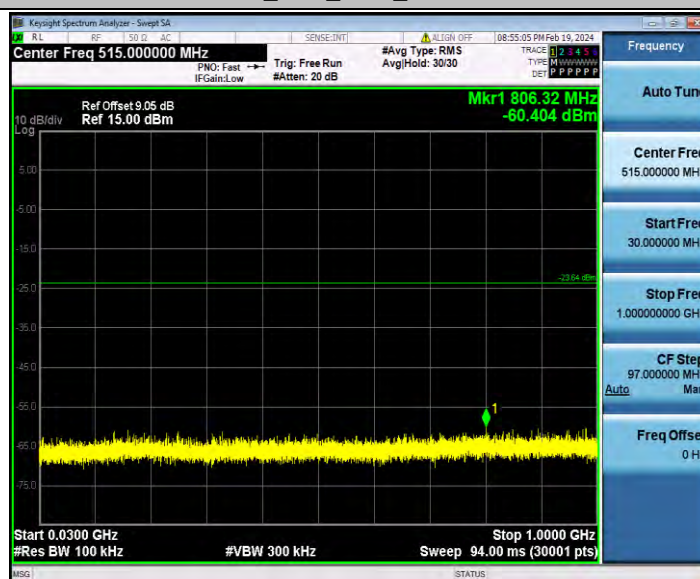




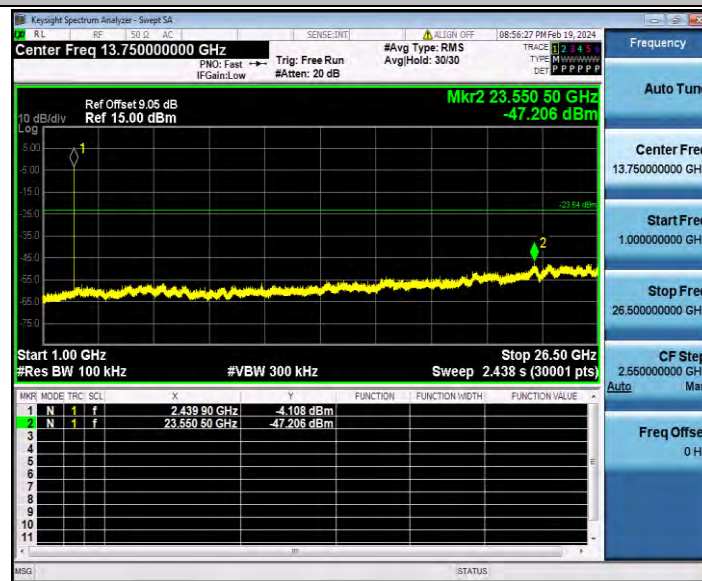
BLE_Ant1_2440_0~Reference



BLE_Ant1_2440_30~1000



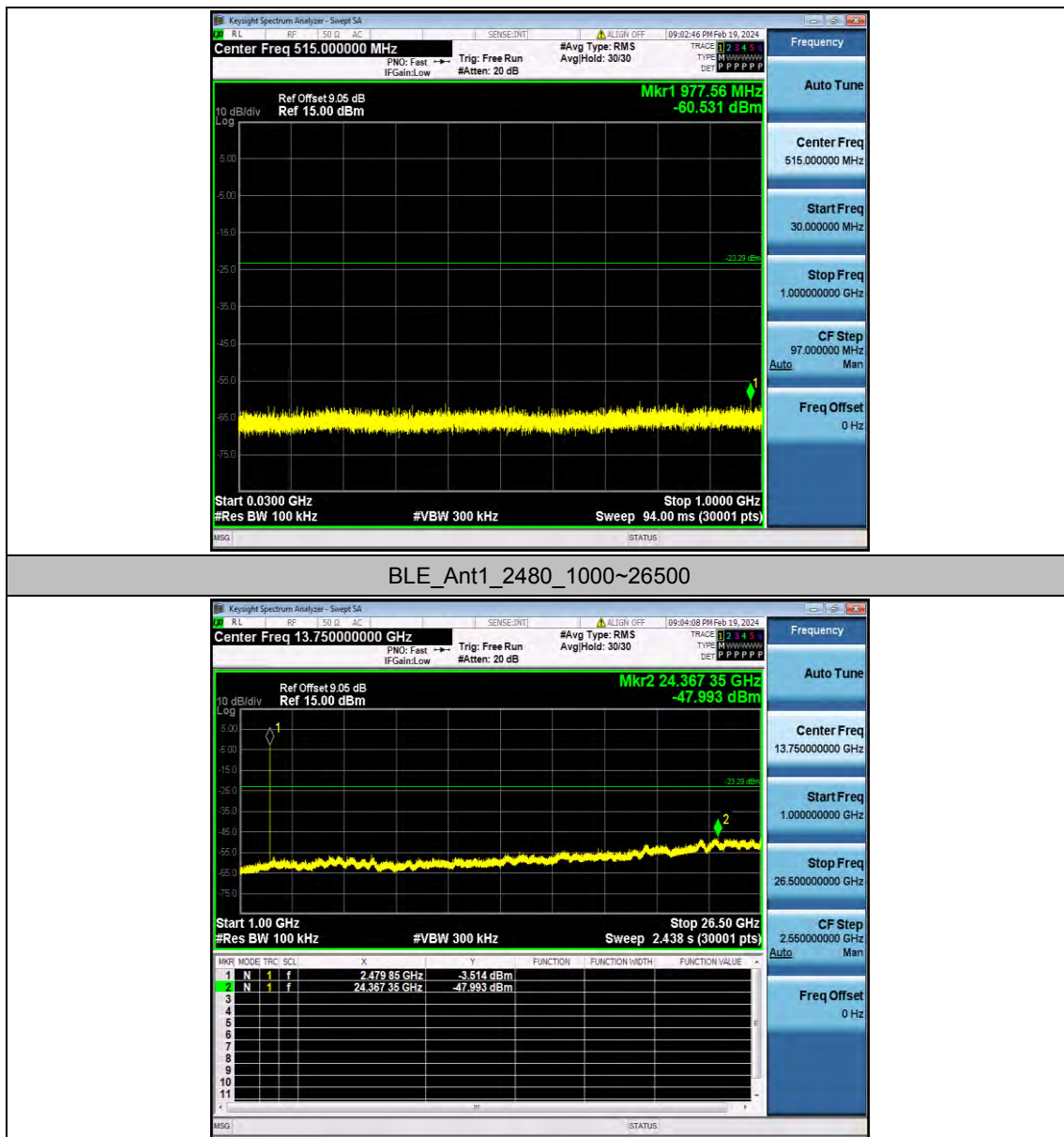
BLE_Ant1_2440_1000~26500



BLE_Ant1_2480_0~Reference



BLE_Ant1_2480_30~1000

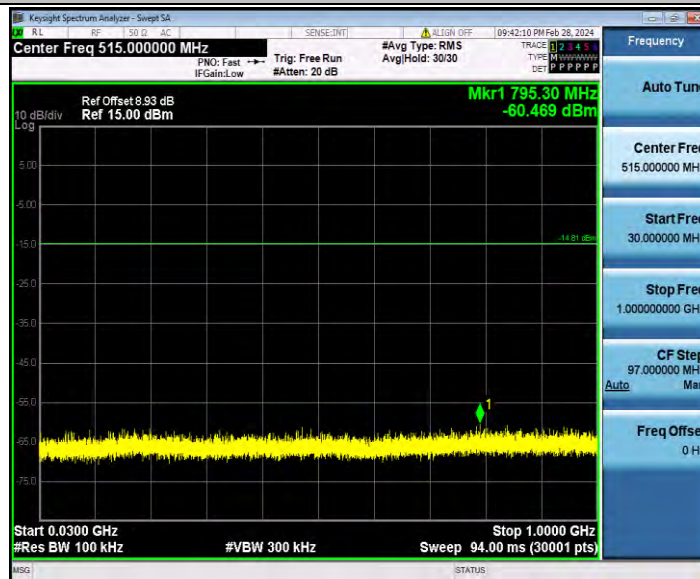


BT 2LE

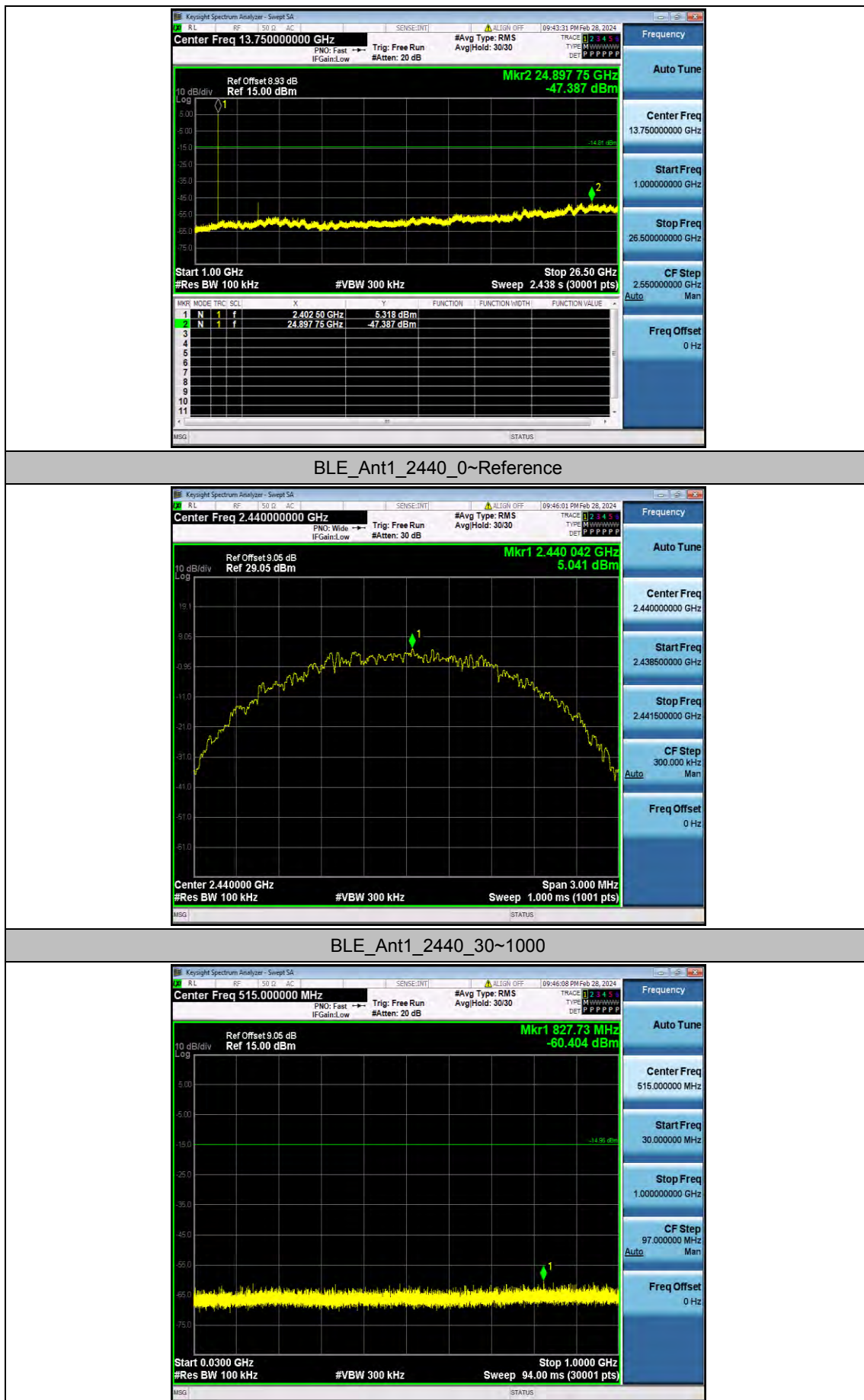
BLE_Ant1_2402_0~Reference



BLE_Ant1_2402_30~1000



BLE_Ant1_2402_1000~26500



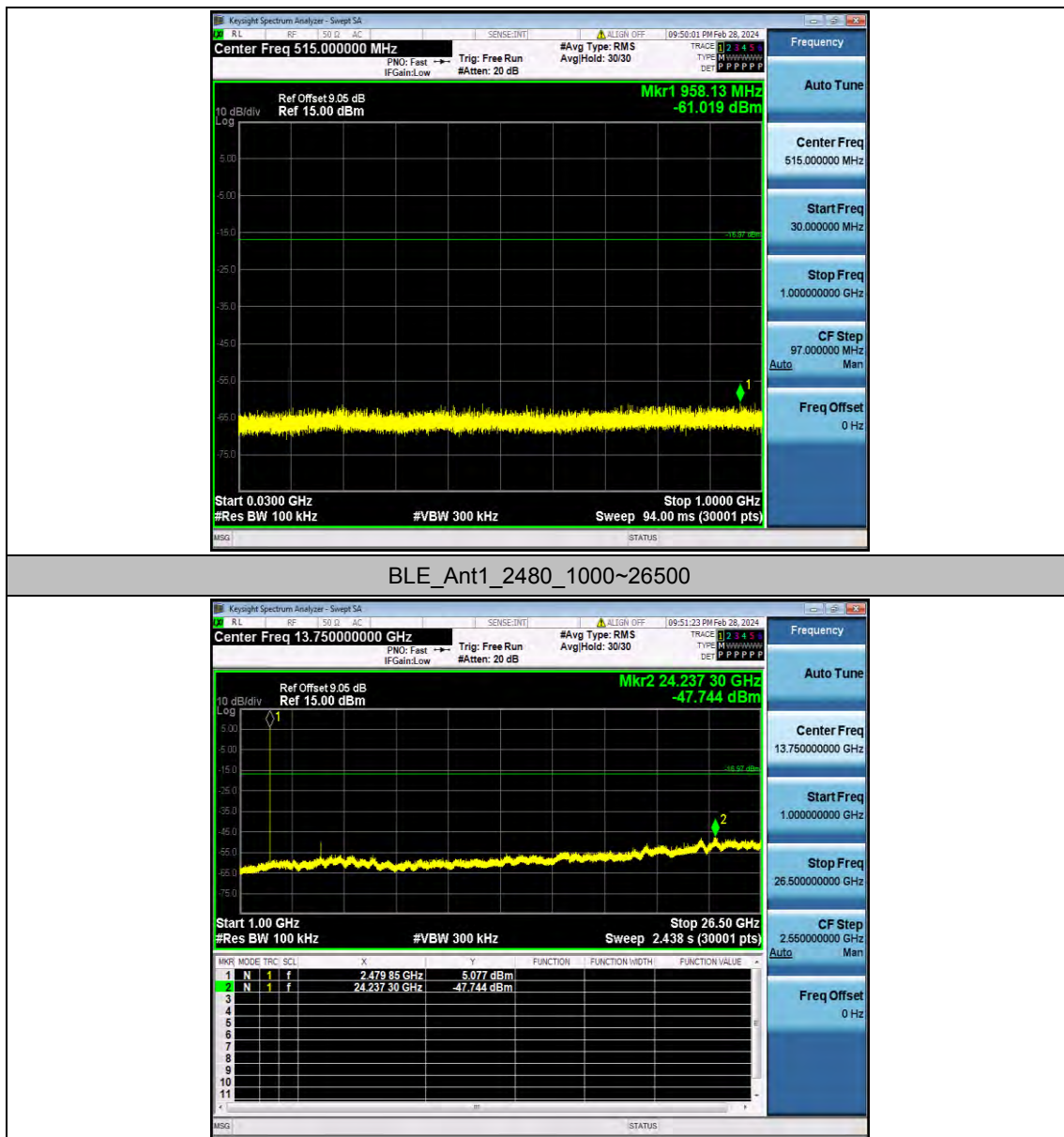
BLE_Ant1_2440_1000~26500

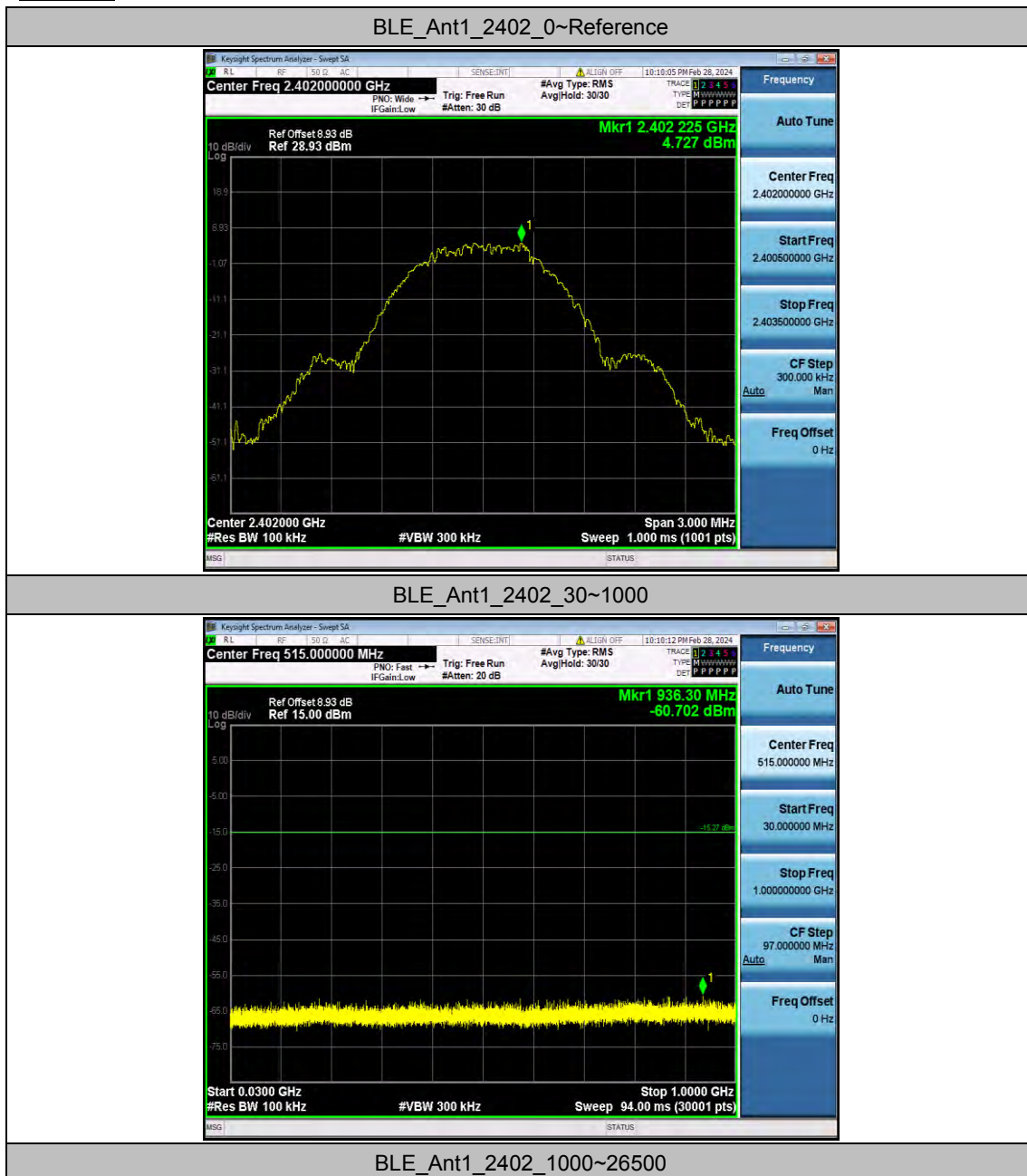


BLE_Ant1_2480_0~Reference



BLE_Ant1_2480_30~1000



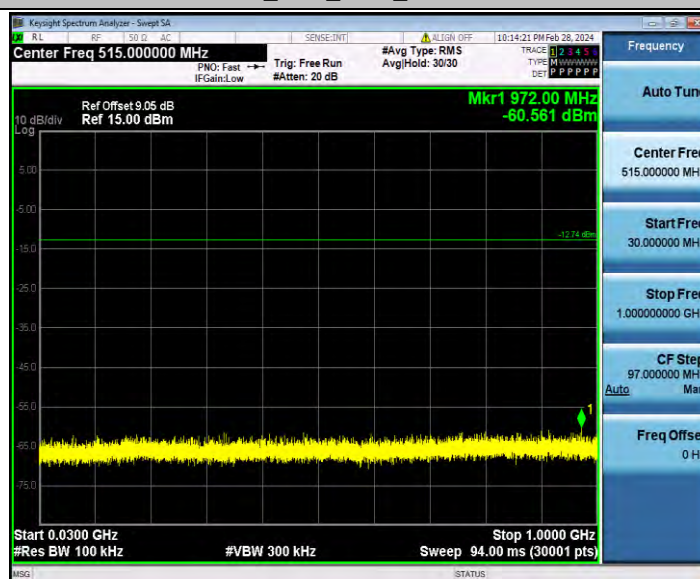
BT LE(S2)



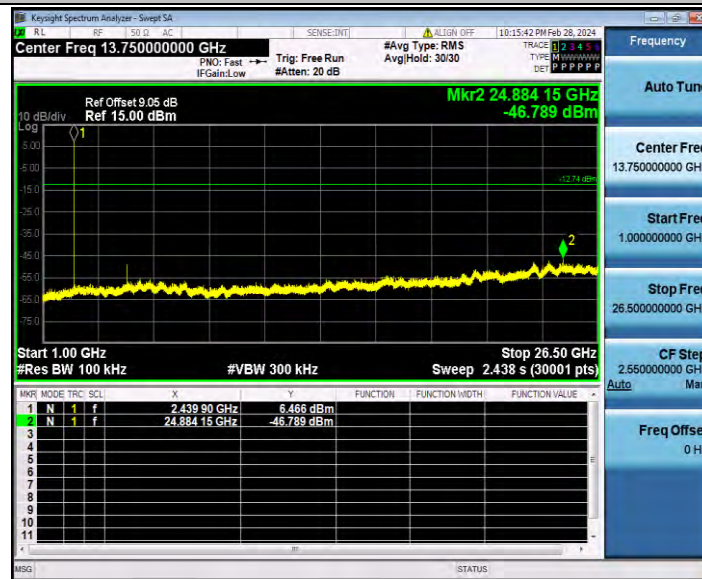
BLE_Ant1_2440_0~Reference



BLE_Ant1_2440_30~1000



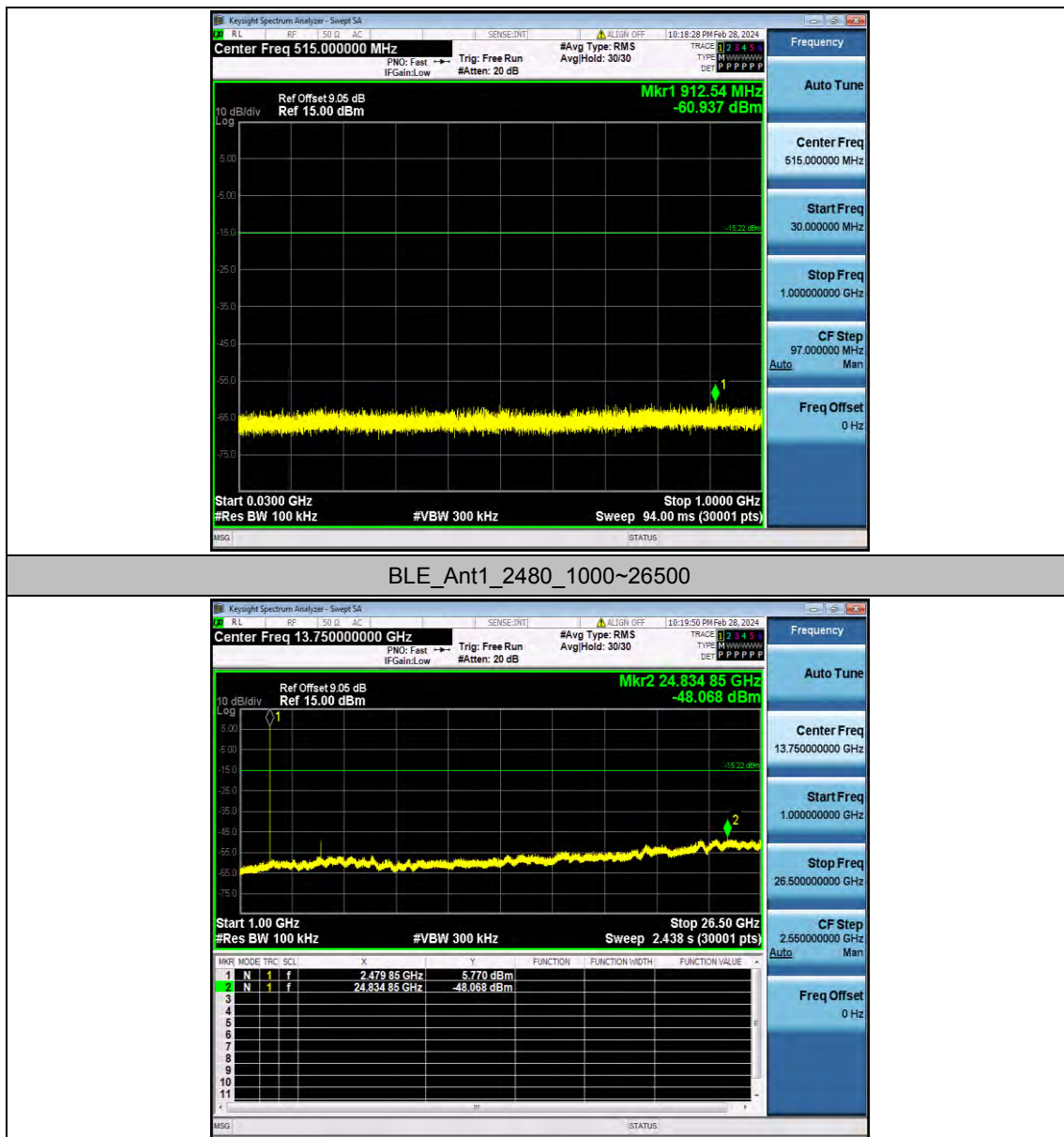
BLE_Ant1_2440_1000~26500

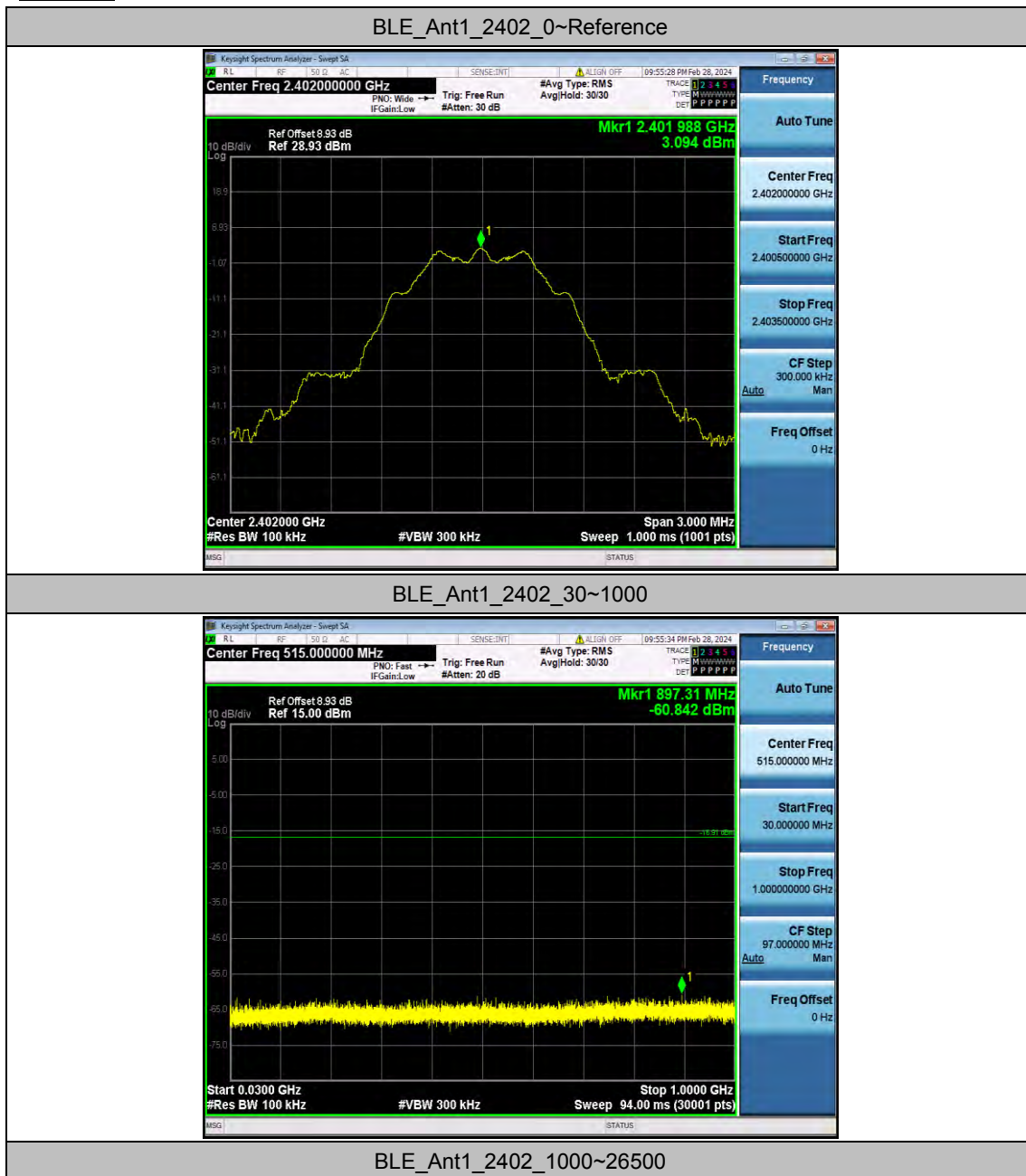


BLE_Ant1_2480_0~Reference



BLE_Ant1_2480_30~1000



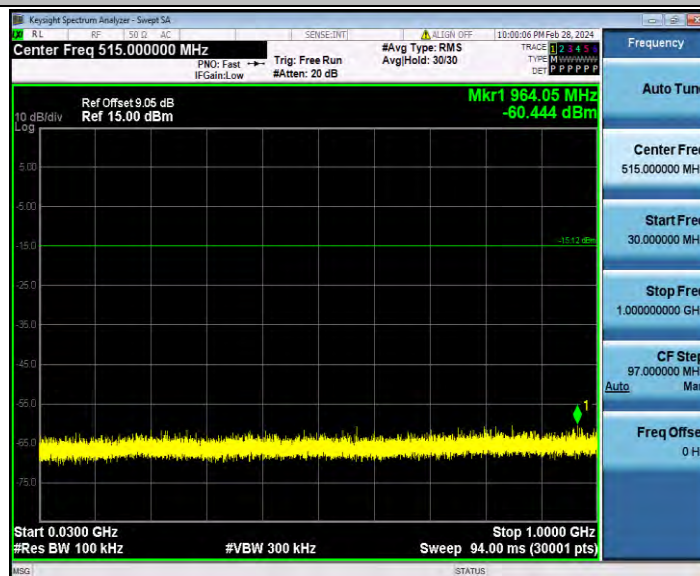
BT LE(S8)



BLE_Ant1_2440_0~Reference



BLE_Ant1_2440_30~1000



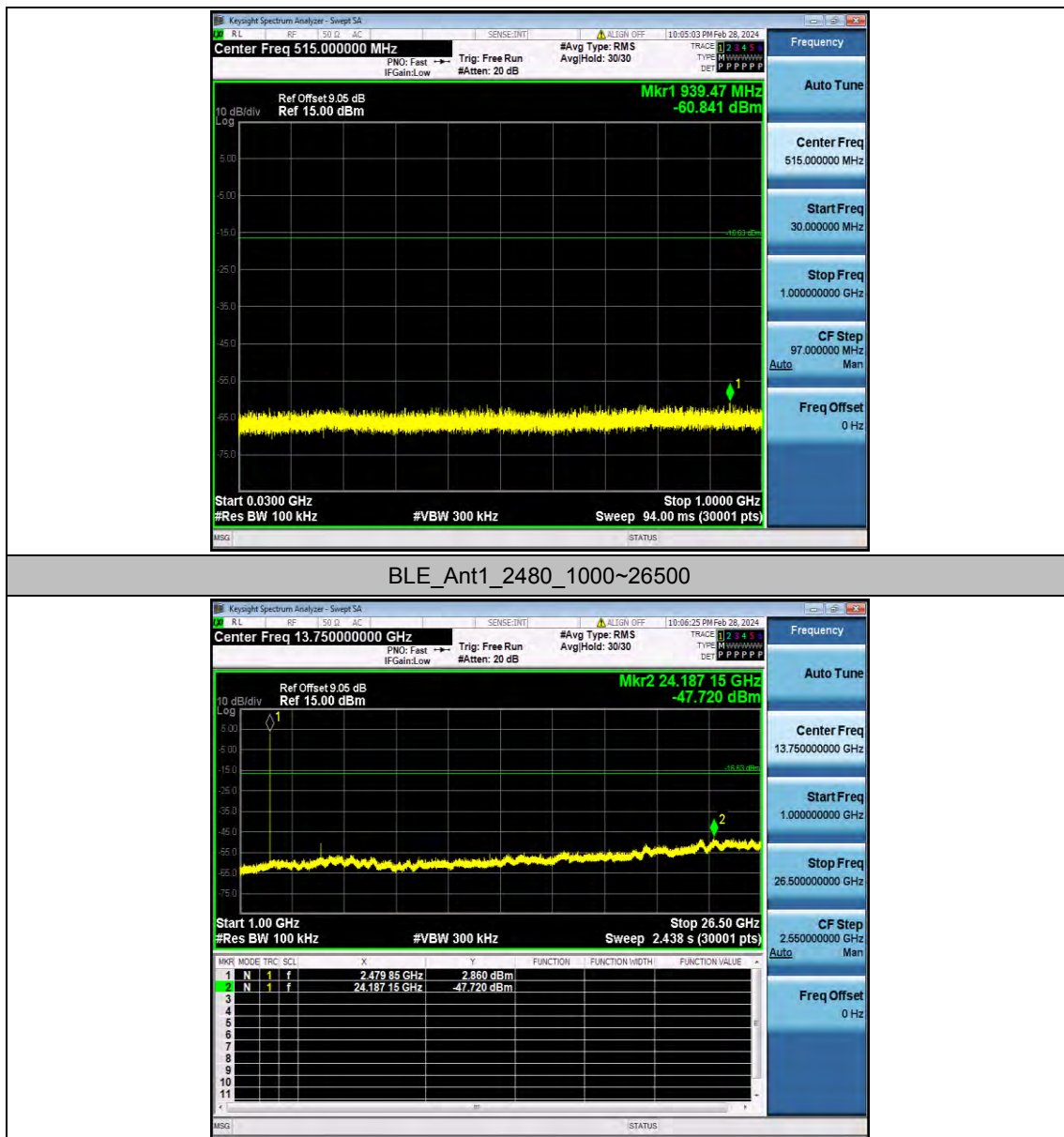
BLE_Ant1_2440_1000~26500



BLE_Ant1_2480_0~Reference



BLE_Ant1_2480_30~1000



Appendix B.7: Emissions in Restricted Bands

Test Result

BT LE

TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE	Ant1	Low	2402	AV	2310.000	-49.46	≤-41.20	45.74	≤54	PASS
				AV	2384.315	-47.83	≤-41.20	47.37	≤54	PASS
				AV	2390.000	-49.1	≤-41.20	46.10	≤54	PASS
				Peak	2310.000	-42.05	≤-21.20	53.15	≤74	PASS
				Peak	2344.520	-39.52	≤-21.20	55.68	≤74	PASS
				Peak	2390.000	-42.67	≤-21.20	52.53	≤74	PASS
		High	2480	AV	2483.500	-47.28	≤-41.20	47.92	≤54	PASS
				AV	2487.200	-42.91	≤-41.20	52.29	≤54	PASS
				AV	2500.000	-48.59	≤-41.20	46.61	≤54	PASS
				Peak	2483.500	-42.12	≤-21.20	53.08	≤74	PASS
				Peak	2491.920	-38.34	≤-21.20	56.86	≤74	PASS
				Peak	2500.000	-41.72	≤-21.20	53.48	≤74	PASS

BT 2LE

TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE	Ant1	Low	2402	AV	2310.000	-49.32	≤-41.20	45.88	≤54	PASS
				AV	2381.270	-48.88	≤-41.20	46.32	≤54	PASS
				AV	2390.000	-49.01	≤-41.20	46.19	≤54	PASS
				Peak	2310.000	-42.88	≤-21.20	52.32	≤74	PASS
				Peak	2326.040	-38.44	≤-21.20	56.76	≤74	PASS
				Peak	2390.000	-40.98	≤-21.20	54.22	≤74	PASS
		High	2480	AV	2483.500	-43.42	≤-41.20	51.78	≤54	PASS
				AV	2483.520	-43.42	≤-41.20	51.78	≤54	PASS
				AV	2500.000	-48.61	≤-41.20	46.59	≤54	PASS
				Peak	2483.500	-41.11	≤-21.20	54.09	≤74	PASS
				Peak	2487.280	-38.51	≤-21.20	56.69	≤74	PASS
				Peak	2500.000	-42.86	≤-21.20	52.34	≤74	PASS

BT LE(S2)

TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE	Ant1	Low	2402	AV	2310.000	-49.28	≤-41.20	45.92	≤54	PASS
				AV	2385.260	-48.91	≤-41.20	46.29	≤54	PASS
				AV	2390.000	-48.95	≤-41.20	46.25	≤54	PASS
				Peak	2310.000	-40.47	≤-21.20	54.73	≤74	PASS
				Peak	2334.755	-39.13	≤-21.20	56.07	≤74	PASS
				Peak	2390.000	-41.07	≤-21.20	54.13	≤74	PASS
		High	2480	AV	2483.500	-46.43	≤-41.20	48.77	≤54	PASS
				AV	2483.520	-46.42	≤-41.20	48.78	≤54	PASS
				AV	2500.000	-48.67	≤-41.20	46.53	≤54	PASS
				Peak	2483.500	-41.22	≤-21.20	53.98	≤74	PASS
				Peak	2487.760	-38.92	≤-21.20	56.28	≤74	PASS
				Peak	2500.000	-41.12	≤-21.20	54.08	≤74	PASS

BT LE(S8)

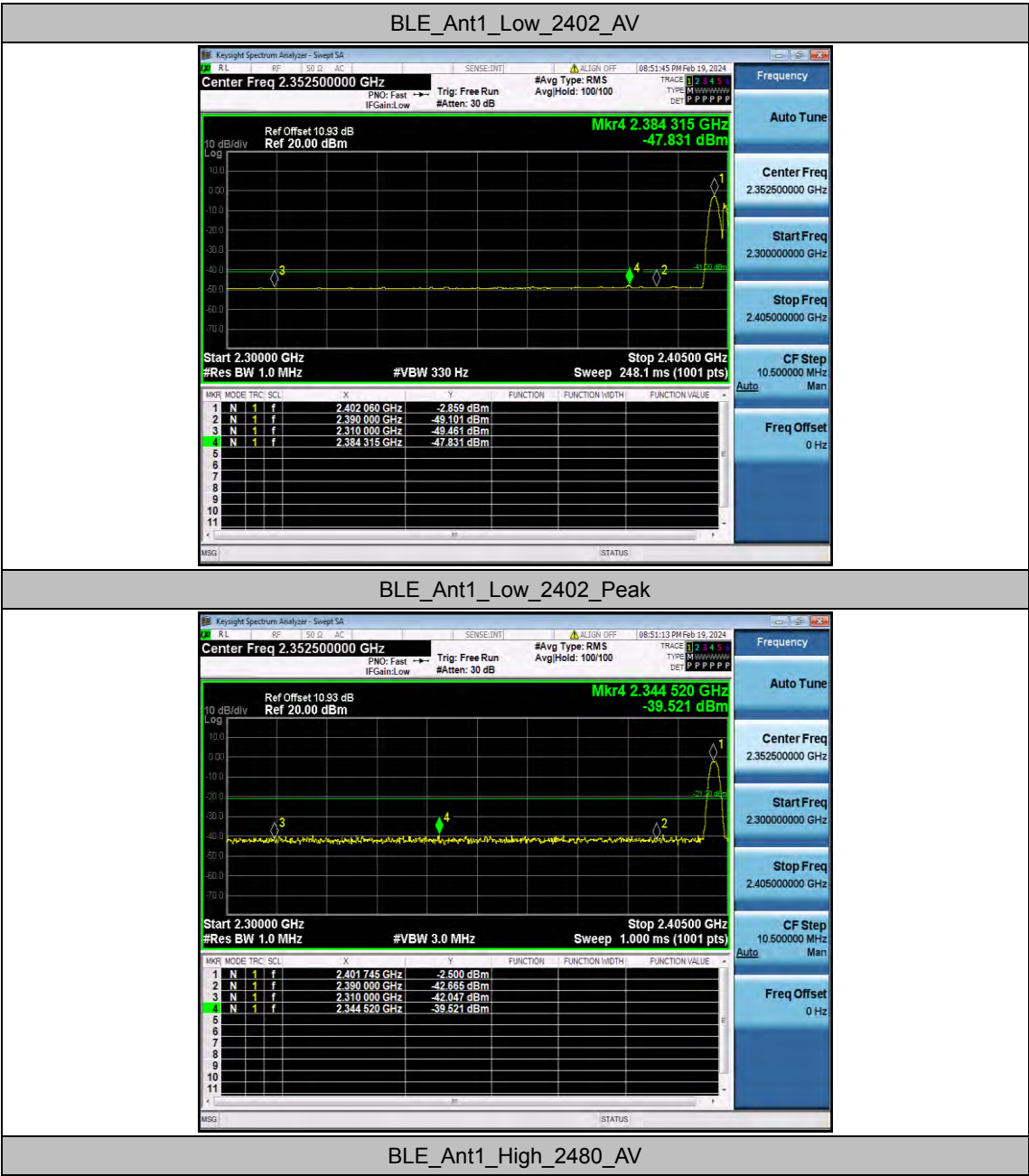
TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE	Ant1	Low	2402	AV	2310.000	-49.31	≤-41.20	45.89	≤54	PASS
				AV	2389.775	-48.85	≤-41.20	46.35	≤54	PASS
				AV	2390.000	-48.9	≤-41.20	46.30	≤54	PASS
				Peak	2310.000	-40.97	≤-21.20	54.23	≤74	PASS
				Peak	2342.630	-39.19	≤-21.20	56.01	≤74	PASS
				Peak	2390.000	-41.17	≤-21.20	54.03	≤74	PASS
		High	2480	AV	2483.500	-46.32	≤-41.20	48.88	≤54	PASS
				AV	2483.520	-46.32	≤-41.20	48.88	≤54	PASS
				AV	2500.000	-48.67	≤-41.20	46.53	≤54	PASS
				Peak	2483.500	-41.01	≤-21.20	54.19	≤74	PASS
				Peak	2498.320	-39.28	≤-21.20	55.92	≤74	PASS
				Peak	2500.000	-42.12	≤-21.20	53.08	≤74	PASS

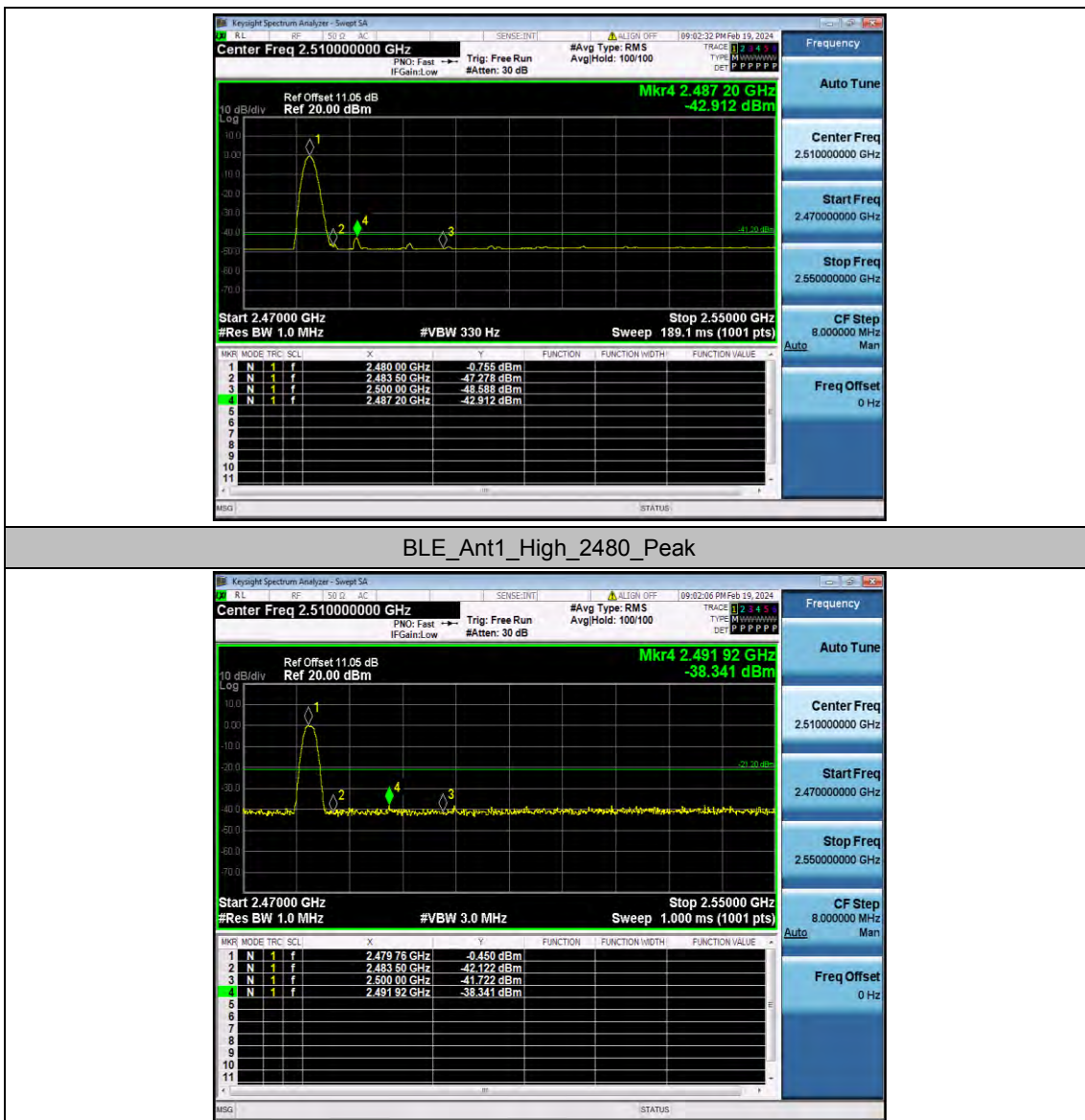
Note:

1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

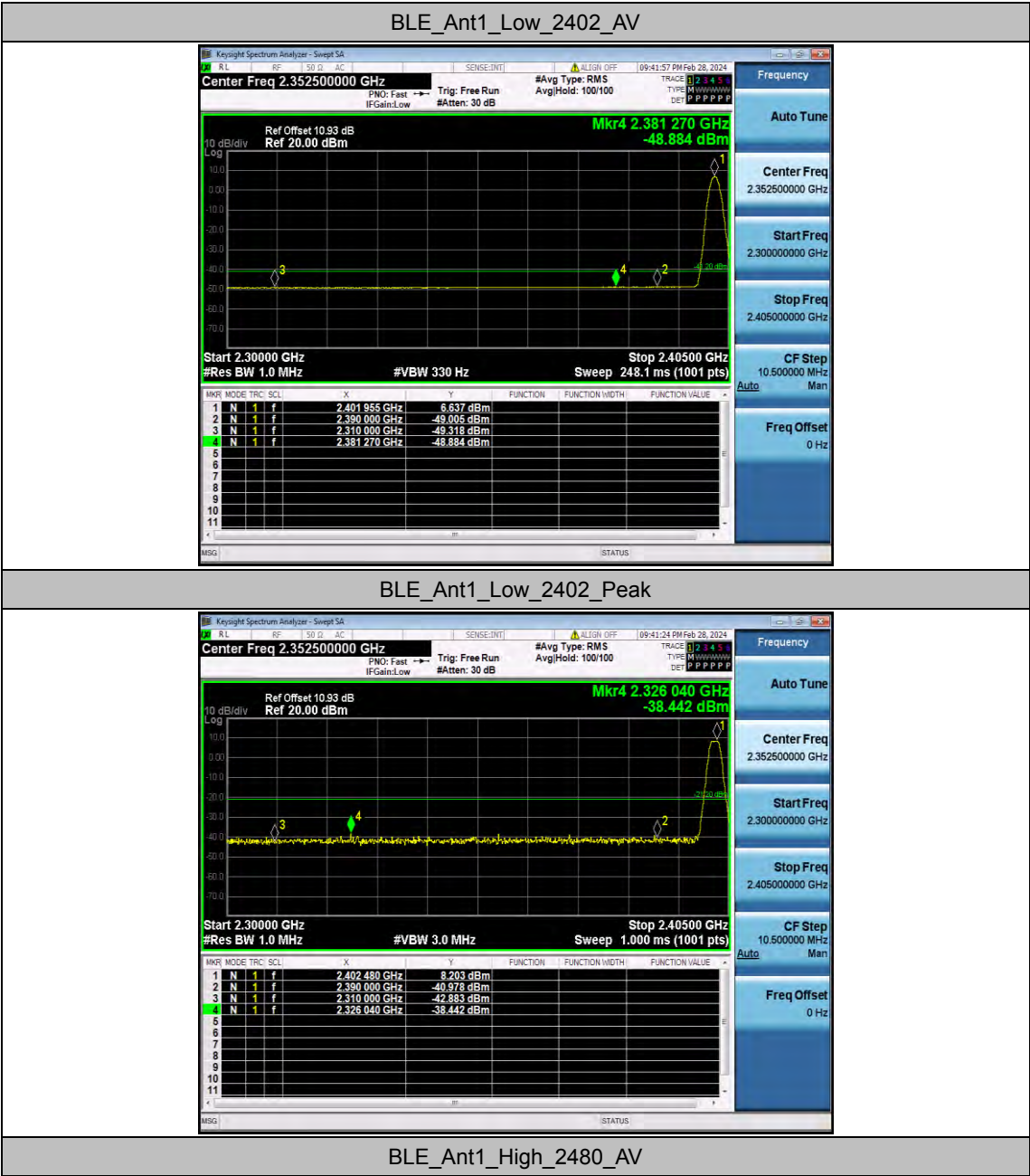
Test Graphs

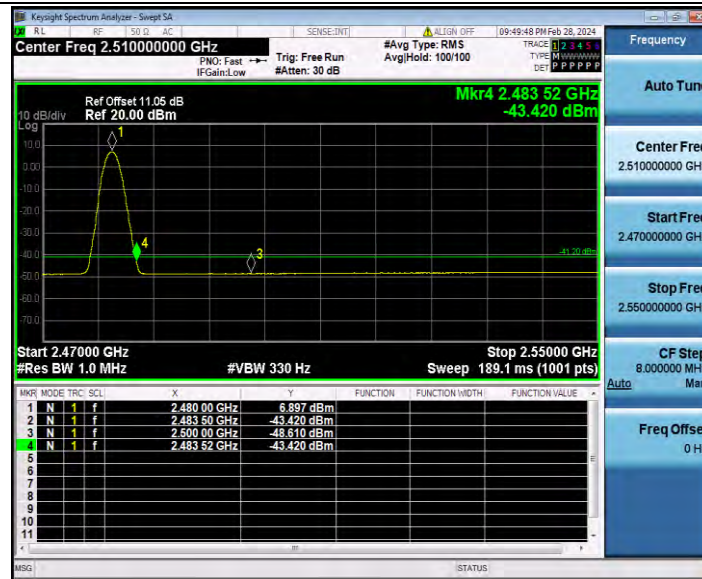
BT LE



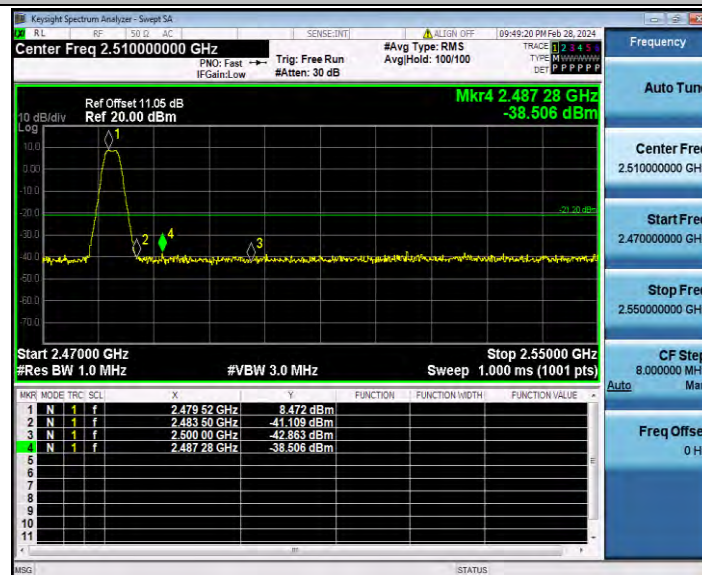


BT 2LE

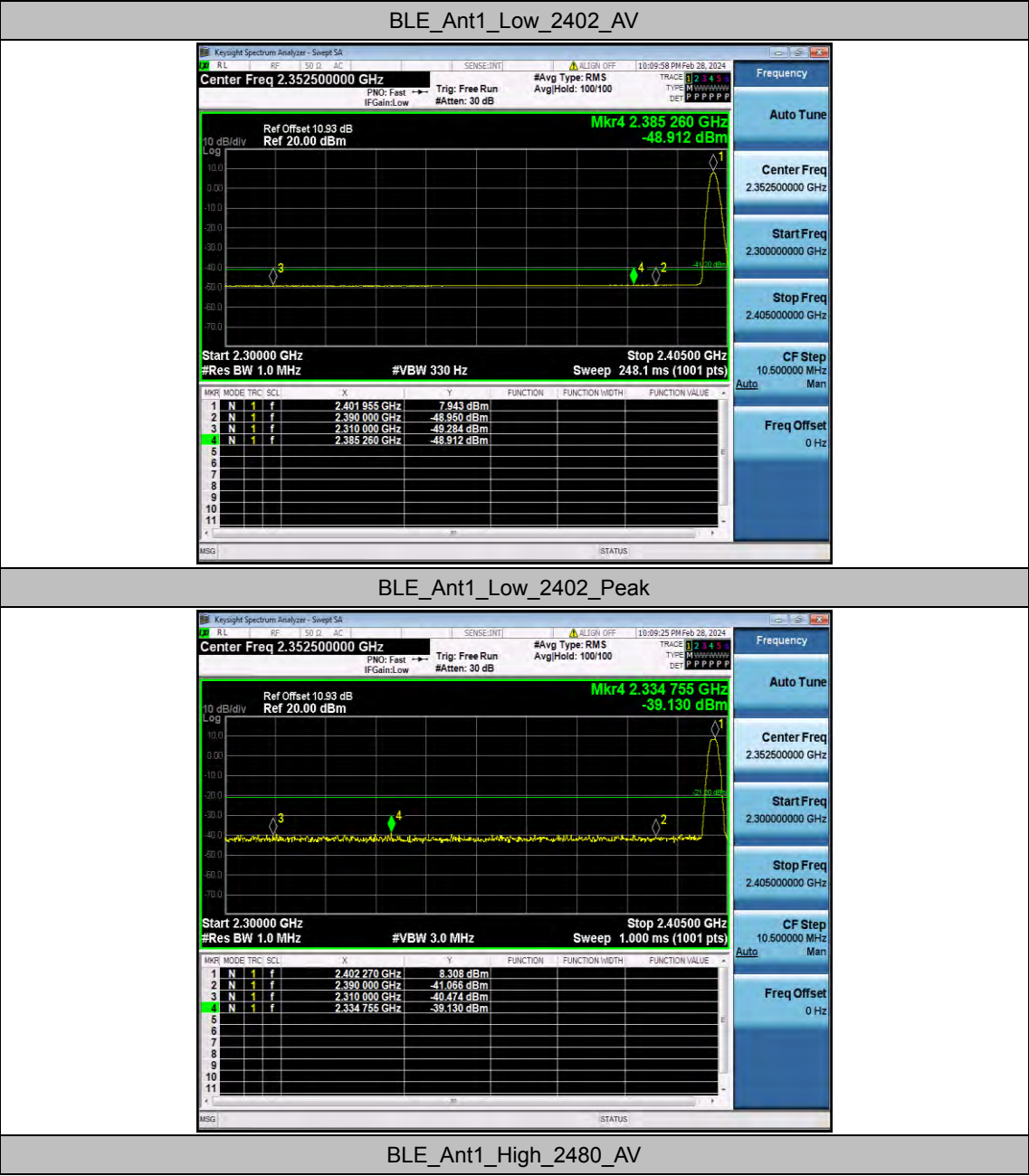


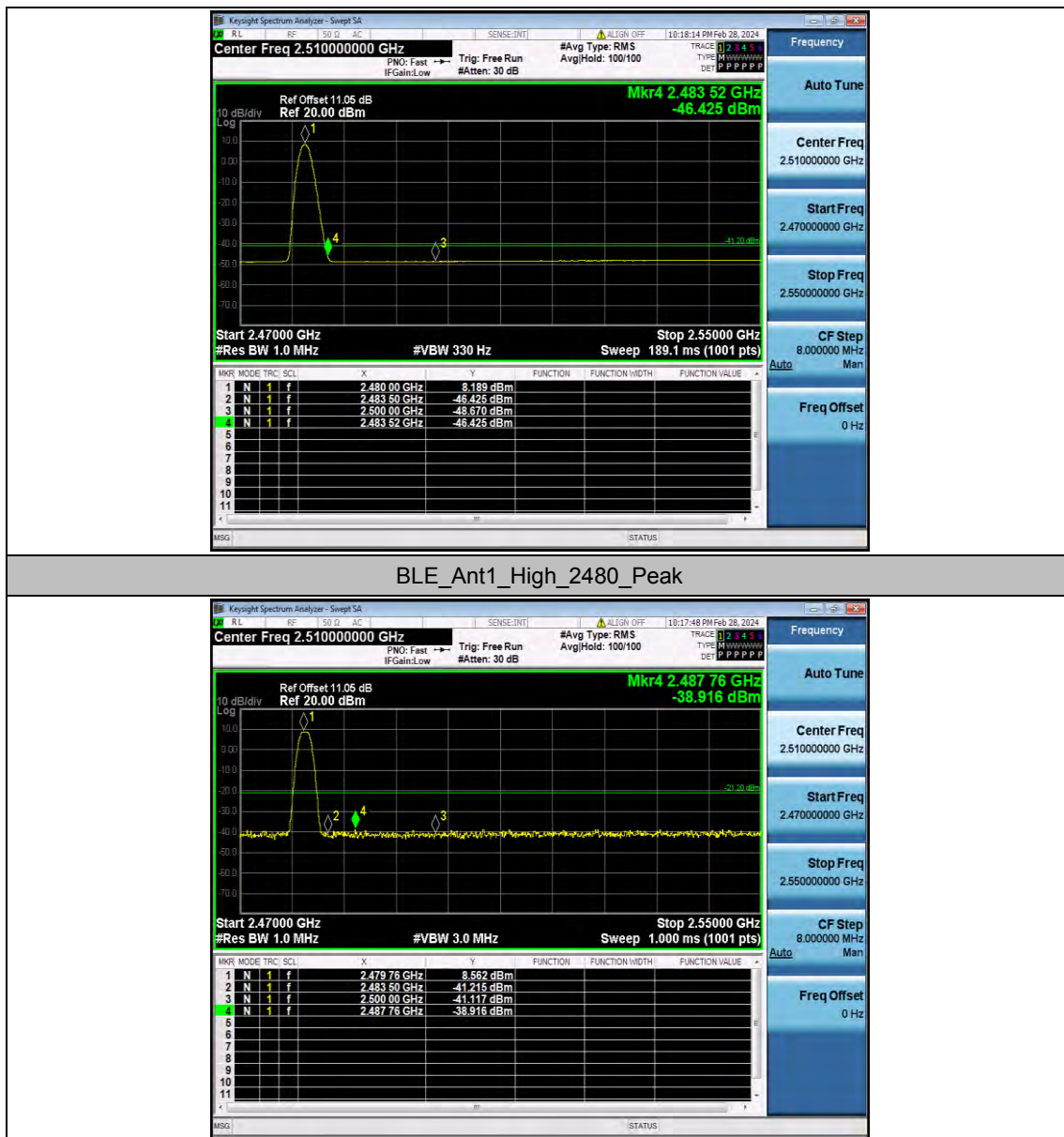


BLE_Ant1_High_2480_Peak



BT LE(S2)





BT LE(S8)

